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# TRACTORS AND PREHARVEST EQUIPMENT, DELTA AREA, MISSISSIPPI

## Costs of Owning and Operating, by Size of Farm, 1957

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### SUMMARY AND CONCLUSIONS

This report presents the findings of one phase of a study of farm organization, costs, and practices on cotton farms in the Delta area of Mississippi. It is based on an enumerative survey of 163 operating units for the year 1957. Estimates of the costs of owning and operating preharvest items of equipment by size of farm in the Delta are presented. Analyses of equipment costs were made for four size-of-farm groups in terms of acreage of cropland: (1) Less than 60 acres, (2) 60 to 399 acres, (3) 400 to 999 acres, and (4) 1,000 or more acres. Information on equipment owned and used was obtained from farmers; secondary sources of cost and performance data were used in estimating annual costs of ownership and operation.

The estimates of equipment use and costs contained in the report apply to those combinations of enterprises, acreages, and farm practices observed on sample farms. No attempt was made to segregate the effects on costs of size and factors associated with size.

Operators of farms with less than 400 acres of cropland commonly used 2-row equipment, while those of farms with more than 400 acres of cropland commonly used 4-row equipment. However, some sizes of equipment were most common on all sizes of farms. These included 2-row stalk cutters, 2-row breaking disks, 2-bottom plows, 4-row anhydrous ammonia applicators, 4-row pre-emergence chemical applicator, and 4-row tractor-mounted sprayers.

In general, as size of farm increased, a given size of machine was used over a greater acreage. Large machines used for small acreages of cropland were frequently

found on small farms. Many items of preharvest equipment in the Delta are used on small acreages that do not gain potential economic use of equipment.

The study indicated marked variability by size of farm in unit costs of operating various items of preharvest equipment. Moderately large farms provided greater utilization of machines and consequently lower cost per unit of use. Average costs of using 2-row middlebusters, for example, ranged from \$0.94 per hour of use on farms with less than 60 acres of cropland to \$0.46 per hour on farms with more than 1,000 acres of cropland. Similarly, average costs of using 4-row harrows ranged from \$1.10 per hour on small farms to \$0.14 per hour on large farms. Ownership and operation of equipment on farms with less than 60 acres of cropland resulted in high fixed costs per acre and per hour of use.

Total preharvest equipment costs per acre of cotton ranged from \$8.04 on small farms to \$5.26 on large farms. Greater differences in total equipment costs per acre by size of farm were found for soybeans, corn, oats, and wheat.

The estimated cost per hour of operating 2-row tractors in the Delta area of Mississippi ranged from \$1.51 on small farms with 265 hours of use per tractor, to \$1.12 on large farms with 481 hours of use per tractor. Hourly costs of operating 4-row tractors ranged from \$1.75 per hour on farms having 60 to 399 acres of cropland and an average use of 388 hours per tractor, to \$1.32 per hour on large farms with 758 hours of use per tractor. Total costs per acre of operating tractors decreased as size of farm increased, despite greater use of larger, higher priced tractors and generally more intensive practices.

The equipment, power, and labor costs associated with machine operations are important factors in the financial success of farm businesses; they become more important as mechanization of farm jobs increases. The findings of the study illustrate the advantages of moderately large farms in providing an acreage base for reasonably efficient utilization of the equipment needed in competitive farming. Within the limitations of methodology, however, they indicate no significant cost advantage as size of farm increases beyond 1,000 acres of cropland. No attempt was made to determine the lowest cost combination of equipment, power, and labor on farms varying in size, organization, or management capacity; to do so would require a planning or budget approach.

The appendix tables provide data useful in farm planning and partial budgeting. Various combinations of equipment, power and labor, and costs per acre covered may be selected for application, by size of farm, to specified operations on five enterprises--cotton, soybeans, corn, oats, and wheat. Substitutions in equipment use and cost rates may readily be made for application to particular situations.

## INTRODUCTION

Mechanization of farms in the Delta area of Mississippi has proceeded rapidly. Changes in technology in cotton production and greater nonfarm employment opportunities, as well as greater emphasis on highly mechanized production of soybeans and small grains, have resulted in an accelerated trend toward capital-intensive farming methods.

Tractor power and related equipment have made possible larger operating units and more efficient use of labor by farmers who are attempting to maintain or improve incomes. Mechanization of commercial farms in the Delta has generally resulted in lower unit costs of production, thereby partly offsetting the narrowing price-cost margin for crop output in the area.

Economies associated with mechanization have not been uniformly realized on all sizes of farms. This was the hypothesis of one phase of a study of farm organization, costs, and practices on cotton farms in the Delta of Mississippi, the findings of which

are presented in this report. The study was based on an enumerative survey of 163 operating units for the year 1957.

Estimates of the differences in costs of operating preharvest items of equipment by size of farm are shown here. The scarcity of current data relating to the cost of operating equipment on farms of different sizes and the widespread need for data of this kind in budgeting and enterprise cost studies provided the incentive for the analysis. Cost data of the kind presented here are also useful in management decisions, such as whether to buy or custom-hire a machine, which kind and size of machine to buy, and whether full or joint ownership is the most economical ownership pattern.

## PROCEDURE

The sampling method used in the study was adapted from a study of farm organization and practices conducted in the same geographic area in 1948. It consisted of the delineation of 14 farming areas within 7 counties of the Delta, with complete enumeration of operating units within areas.

The farm operating unit, which is defined as all farm resources under common management and equipment use, comprised the basic sampling unit. This restriction resulted in the exclusion of sharecropper units as single operating units, although they were included in the study as integral parts of operating units. Resources under control of share tenants were considered as operating units if the tenants provided the management and equipment for their respective operations. All operating units with headquarters within the sampling areas were contacted.

The scope of the analysis is limited to a comparative cost analysis of equipment use, by size of farm, based on observed combinations of resources and farm practices. The size of farm intervals chosen were as follows: (1) Less than 60 acres, (2) 60 to 399 acres, (3) 400 to 999 acres, and (4) 1,000 or more acres of cropland per farm.<sup>1</sup> This selection was based on the assumption that

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<sup>1</sup>These intervals are consistent with those selected in the analysis of costs and returns by type and size of farm, which includes small cotton farms with less than 60 acres of cropland and large-scale cotton farms with 400 to 999 acres of cropland.

the per acre cost of owning and operating equipment was inversely related to size of farm and that the selected intervals would adequately demonstrate any differences in cost by size of farm.

The data obtained from farmers for the purpose of estimating preharvest equipment costs consisted of (1) a physical inventory of equipment on farms and (2) the number of acres, by enterprise, on which each kind and size of equipment was used. The inventory contained a listing of the numbers of each kind and size of equipment on farms as of January 1, 1958. Estimates of equipment use were based on the enumeration of farm practices for each crop enterprise in 1957. No estimates of initial cost or market value were obtained from farmers. Secondary sources of cost and performance data were used in estimating annual operating costs.

"Costs," as referred to in this report, include "fixed" costs--depreciation, interest, taxes, insurance and housing--and "variable" costs--repairs, fuel, grease, oil, service labor, and mounting and dismounting when applicable. These are economic costs in terms of current dollars. When possible, the prevailing average cost rates to farmers in the Delta were used. Operator and family labor was valued at prevailing hired wage rates for the kind of work performed.

Each section of the report contains a statement concerning estimating procedures.

### Limitations of Data

The data apply to farming conditions in the Delta in the late fifties. All estimates are presented as numerical averages within each of four different size-of-farm groupings. No other data groupings were made, that is, no groupings were made of data relating to farms having similar equipment combinations within each size-of-farm grouping, and so on. Furthermore, the size intervals used may be too wide and thus lacking in detail and homogeneity for some purposes. This limitation was imposed by the sample, which was designed for more comprehensive enterprise cost estimations. In a general way, the cost estimates indicate the effects of the level of technology, farm practices, and

scale within each of the four size-of-farm groups. Many factors affect equipment use, efficiency, and cost, none of which are singularly isolated in this analysis. These factors include conditions "external" to the farm business, such as acreage allotments, prices of machinery, and equipment design and adequacy, as well as management skills, or "internal" factors.

## ORGANIZATION OF FARMS

Table 1 shows the use of land in 1957 on the farms studied. Land rented in by the operator played an important part in enlarging the size of business. It comprised 21 percent of all land in the sample farms and ranged from slightly more than 7 percent on farms with 1,000 or more acres of cropland to more than 45 percent on farms having between 60 and 399 acres of cropland. About 5 percent of the land owned was rented out, varying from 1 percent on farms with less than 60 acres of cropland to 13 percent on farms having between 400 and 999 acres of cropland. Total cropland as a percentage of all land in farms ranged from 64 percent on small farms to 80 percent on farms having between 400 and 999 acres of cropland.

The percentage of total cropland in cotton varied from 49 percent on farms with less than 60 acres of cropland to 30 percent on farms containing 1,000 or more acres of cropland, as compared with the 33-percent average for all farms (table 2). The percentage of the total acreage in crops that was planted to soybeans varied from 22 percent on the small farms to 33 percent on the large farms. Crops other than these two major crops were less important in all size groups.

## INVENTORY OF POWER AND EQUIPMENT

The numbers of machines on farms in the four size-of-farm groups were calculated on a per 100-farm basis. Table 3 shows the distribution of preharvest and harvest machines, by size of farm. Some sizes of preharvest equipment, such as the 2-row stalk cutter, 2-bottom plow, 2-row breaking disk (5- to 7-foot heavy-duty tandem disk), 4-row anhydrous ammonia applicator, 4-row pre-emergence

TABLE 1.--Land use, by size of farm, Delta area, Mississippi, 1957

Item	Cropland per farm				All sizes of farms
	Less than 60 acres	60 to 399 acres	400 to 999 acres	1,000 acres or more	
	<u>Farms</u>	<u>Farms</u>	<u>Farms</u>	<u>Farms</u>	<u>Farms</u>
Number of farms reported.	66	58	28	11	163
	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>
All land in farm.....	55.6	216.1	793.3	2,363.7	395.3
Land controlled by operator:					
Owned.....	46.0	118.8	696.0	2,199.4	329.0
Rented in.....	10.2	98.3	186.8	175.1	83.0
Rented out.....	.6	1.0	89.5	10.8	16.7
Use of land in farm:					
Cropland.....	35.5	161.3	635.4	1,831.6	304.6
Permanent pasture.....	6.9	23.3	47.1	93.6	25.5
Woods not pastured.....	8.8	15.6	63.3	370.0	45.0
Other land.....	4.4	15.9	47.5	68.5	20.2

TABLE 2.--Organization of cropland, by size of farm, Delta area, Mississippi, 1957

Item	Cropland per farm				All sizes of farms
	Less than 60 acres	60 to 399 acres	400 to 999 acres	1,000 acres or more	
	<u>Farms</u>	<u>Farms</u>	<u>Farms</u>	<u>Farms</u>	<u>Farms</u>
Number of farms reported.	66	58	28	11	163
	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>
Crops per farm:					
Cotton.....	14.7	46.7	189.3	477.2	87.3
Soybeans.....	6.6	41.8	169.3	520.0	81.7
Corn.....	4.1	6.3	15.9	121.3	14.8
Oats.....	2.2	31.6	113.5	111.5	39.2
Wheat.....	1.3	6.8	53.7	207.6	26.2
Rice.....	0	3.3	21.1	140.8	14.3
Sorghum.....	.2	1.6	6.1	7.3	2.2
Other.....	1.0	.6	7.2	10.9	2.6
Total crops.....	30.1	138.7	576.1	1,596.6	268.3
Acreage Reserve.....	1.7	8.8	23.3	50.9	11.3
Conservation Reserve.....	.3	2.8	0	0	1.1
Idle cropland.....	2.4	9.9	25.3	173.6	20.5
Cropland pastured.....	1.0	1.1	10.7	10.5	3.4
Total cropland.....	35.5	161.3	635.4	1,831.6	304.6

TABLE 3.--Number and kind of machines and equipment per 100 farms, by size of farm, Delta area, Mississippi, 1957

Kind and size of machine <sup>1</sup>	Cropland per farm				All sizes of farms
	Less than 60 acres	60 to 399 acres	400 to 999 acres	1,000 acres or more	
	<u>Farms</u>	<u>Farms</u>	<u>Farms</u>	<u>Farms</u>	<u>Farms</u>
Number of farms reported...	66	58	28	11	163
	<u>Machines per 100 farms</u>	<u>Machines per 100 farms</u>	<u>Machines per 100 farms</u>	<u>Machines per 100 farms</u>	<u>Machines per 100 farms</u>
Tractors:					
Row-crop:					
2-row.....	89	169	128	346	142
4-row.....	7	92	375	891	160
Standard, all.....	0	19	61	9	18
Truck-type, all.....	0	2	4	127	10
Trucks:					
Pick-up, all.....	41	81	115	200	79
Large, all.....	4	11	93	182	34
Automobiles, all.....	49	81	107	209	81
Tillage:					
Rolling stalk cutter:					
1-row.....	8	0	0	0	3
2-row.....	26	69	57	127	53
4-row.....	0	0	4	0	1
Stalk shredder:					
1-row.....	2	2	0	0	2
2-row.....	1	27	82	100	31
4-row.....	0	0	11	28	4
Middlebuster:					
1-row.....	15	4	0	0	7
2-row.....	76	72	46	45	67
3-row.....	3	53	129	309	63
4-row.....	0	0	11	28	4
Disk plow:					
Regular, all.....	5	27	85	163	37
Reversible, all.....	0	2	7	0	2
Moldboard plow:					
1-bottom.....	6	6	4	0	5
2-bottom.....	14	26	54	100	31
3-bottom.....	3	17	32	64	17
4-5-bottom.....	0	2	22	55	8
Reversible.....	0	0	4	0	1
Disk harrow, breaking:					
2-row.....	61	131	157	218	113
3-row.....	2	5	72	182	27
4-row.....	0	16	21	173	21
6-row.....	0	0	0	9	1
Disk harrow, pulverizing:					
2-row.....	11	26	28	91	25
3-row.....	0	2	25	0	5
4-row.....	0	9	36	18	11

See footnote at end of table.

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TABLE 3.--Number and kind of machines and equipment per 100 farms, by size of farm, Delta area, Mississippi, 1957--Continued

Kind and size of machine <sup>1</sup>	Cropland per farm				All sizes of farms
	Less than 60 acres	60 to 399 acres	400 to 999 acres	1,000 acres or more	
	Machines per 100 farms	Machines per 100 farms	Machines per 100 farms	Machines per 100 farms	Machines per 100 farms
Tillage--Continued					
Peg-tooth harrow:					
2-row.....	46	25	14	9	31
3-row.....	3	2	11	0	4
4-row.....	15	62	143	354	77
Spring-tooth harrow:					
2-row.....	0	0	4	0	1
3-row.....	0	0	6	0	1
4-row.....	0	2	25	82	11
Rotary hoe:					
2-row.....	2	14	11	0	8
4-row.....	0	12	61	100	21
Row-crop cultivators:					
1-row.....	12	5	0	0	7
2-row.....	83	131	104	109	105
4-row.....	0	69	264	546	107
Subsoilers:					
1-row.....	2	9	60	81	20
2-row.....	3	10	32	37	13
Mechanical thinner, 2-row	0	2	4	0	1
Cultipacker:					
2-row.....	2	4	0	0	2
3-row.....	0	5	18	9	5
4-row.....	0	7	46	136	20
Pulverizer, 4-row.....	0	2	32	9	7
Field cultivator, 2-row..	1	0	0	18	2
Double shovel, all.....	6	0	0	0	2
Fertilizer and chemical:					
Fertilizer spreader, dry:					
2-row.....	36	43	7	73	36
3-row.....	6	12	54	36	18
4-row.....	3	26	39	91	23
Anhydrous ammonia applicator:					
2-row.....	0	2	4	18	3
3-row.....	0	2	0	27	3
4-row.....	0	14	47	73	18
5-row.....	0	0	0	9	1
6-row.....	0	4	0	0	1
Anhydrous storage tanks:					
100-gallon.....	0	0	4	0	1
500-gallon.....	0	4	4	36	5
1,000-gallon.....	0	14	32	118	18
3,000-gallon.....	0	0	0	9	1
5,000-gallon.....	0	0	4	0	1
6,000-gallon.....	0	0	7	27	3
10,000-gallon.....	0	0	4	0	1

See footnote at end of table.

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TABLE 3.--Number and kind of machines and equipment per 100 farms, by size of farm, Delta area, Mississippi, 1957--Continued

Kind and size of machine <sup>1</sup>	Cropland per farm				All sizes of farms
	Less than 60 acres	60 to 399 acres	400 to 999 acres	1,000 acres or more	
	Machines per 100 farms	Machines per 100 farms	Machines per 100 farms	Machines per 100 farms	Machines per 100 farms
Fertilizer and chemical--Con.					
Pre-emergence applicator,					
4-row.....	0	5	39	73	13
Post-emergence applicator,					
4-row.....	0	0	0	55	4
High-clearance sprayer:					
4-row.....	0	0	4	0	1
6-row.....	0	0	4	0	1
8-row.....	0	3	39	73	13
Tractor-mounted sprayer:					
2-row.....	1	4	0	0	2
4-row.....	4	31	54	128	31
6-row.....	1	22	11	9	11
8-row.....	3	4	7	18	5
Tractor-mounted duster:					
2-row.....	3	0	0	0	1
4-row.....	0	2	0	0	1
6-row.....	12	14	0	0	10
8-row.....	2	2	4	0	2
Cyclone duster, 15-row...	2	0	0	0	1
Flame cultivator:					
2-row.....	0	0	4	9	1
4-row.....	0	5	36	72	13
Planting and harvesting:					
Planters, mule:					
1-row.....	15	2	0	0	7
2-row.....	4	2	4	36	5
Planters, tractor:					
2-row.....	65	57	18	27	52
4-row.....	2	46	129	246	56
Grain drills:					
2-row.....	3	9	8	0	6
3-row.....	3	25	43	45	21
4-row.....	6	14	22	36	14
Sod seeder, all.....	0	2	4	9	2
Cotton picker, spindle:					
1-row.....	0	34	57	81	27
2-row.....	0	0	18	18	4
Corn picker:					
1-row.....	2	7	29	9	9
2-row.....	0	0	2	37	3
Combine, PTO, 5 to 7-foot	9	18	4	27	13
Combine, auxiliary engine,					
12-foot.....	0	17	0	0	6
Combine, self-propelled:					
9 to 10-foot.....	0	8	24	0	7
12 to 14-foot.....	0	31	89	218	41

See footnote at end of table.

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TABLE 3.--Number and kind of machines and equipment per 100 farms, by size of farm, Delta area, Mississippi 1957--Continued

Kind and size of machine <sup>1</sup>	Cropland per farm				All sizes of farms
	Less than 60 acres	60 to 399 acres	400 to 999 acres	1,000 acres or more	
Planting and harvesting--	Machines per 100 farms	Machines per 100 farms	Machines per 100 farms	Machines per 100 farms	Machines per 100 farms
Continued					
Grain trailer:					
100-bushel.....	3	20	61	227	34
150-bushel.....	0	5	11	82	9
200-bushel.....	0	2	7	0	2
250-bushel.....	0	2	0	0	1
Mule wagon, all.....	0	0	0	45	3
Cotton trailers:					
1-bale.....	45	34	14	255	50
2-bale.....	26	91	146	400	95
3-bale.....	0	33	89	455	58
4-bale.....	0	8	93	82	24
5-bale.....	0	9	25	9	8
6-bale.....	0	2	32	0	6
Mowers:					
5-foot.....	19	9	4	18	13
6-foot.....	3	6	7	28	6
7-foot.....	5	12	46	46	17
Hay rakes, all.....	19	12	61	91	29
Hay balers, all.....	6	14	29	73	17
Hay loaders, all.....	0	2	0	0	1
Forage harvesters, all...	0	0	4	28	3
Forage blowers, all.....	0	0	0	9	1
Grain elevators, all.....	0	10	61	118	22
Straw spreaders, all.....	0	2	0	0	1
Crop dryers, all.....	0	0	4	64	5
Manure spreaders, all....	0	2	11	0	3
Cotton gins, all.....	0	0	0	9	1

<sup>1</sup> The various sizes of equipment were classified, in terms of row coverage, as follows:

- 2-row - 5, 6, and 7-foot widths
- 3-row - 8, 9, and 10-foot widths
- 4-row - 11, 12, and 13-foot widths
- 5-row - 14, 15, and 16-foot widths
- 6-row - 17, 18, and 19-foot widths
- 8-row - 23, 24, 25, and 26-foot widths.

chemical applicator, and 4-row tractor-mounted sprayer were the most common sizes in all size-of-farm groups. The more common sizes of other items, such as middlebusters, harrows, rotary hoes, cultivators, and planters varied more directly with size of farm and size of power units. Farms containing less than 400 acres of cropland commonly had 2-row preharvest equipment, while those with more than 400 acres of cropland more frequently had 4-row equipment.

## ANNUAL COSTS OF OWNING AND OPERATING PREHARVEST EQUIPMENT

### Annual Costs

Estimates were made of the total annual costs of owning and operating each kind and size of preharvest machine used excluding tractors. Four components of cost were considered: (1) Depreciation, (2) interest, taxes, housing and insurance,

(3) servicing, and mounting and dismounting the equipment when applicable, and (4) repairs.

For purposes of depreciation and as a basis for other fixed charges, all machines were valued at 1958 prices. This level reflects the current structure of prices confronting farmers, who replace some items of equipment each year, although it may tend to overstate costs on small farms. The resulting cost rates do not reflect adequately the absolute costs of operating equipment purchased at prices differing substantially from those prevailing in 1958.

Another method of estimating depreciation, and perhaps a better one for some purposes, requires data on the original cost of each machine. Since this information was not obtained, available data on prices paid in 1958 for preharvest equipment were used as a basis for fixed costs. Information on the age of tractors was available. Therefore, original cost was used as the basis for depreciation and interest charges on tractors in a later section of this report.

Two elements that affect the amount of annual depreciation charge are wear and obsolescence.<sup>2</sup> Typically, many items of farm equipment become obsolete or inadequate before they are worn out. This problem was recognized in estimating the number of years of life over which depreciation was spread. Ideally, a determination of annual depreciation requires precise knowledge of the useful life of an item in terms of total hours or acres of use, acres or hours of use annually, and number of years before the machine is obsolete. Although such precision was lacking, the procedure reflected approximations of such data.

### Depreciation

The 1959 edition of the *Agricultural Engineers Yearbook*<sup>3</sup> presents for various kinds of farm equipment estimates of both the number of years until obsolete and

total hours of useful life. (See appendix table 13.) These estimates were used in conjunction with the basic data on equipment use in calculating the expected life of each machine. The amount of use per machine in 1957 was assumed to be an acceptable estimate of average annual use over the life of the machine. The first step in calculating expected life was to compute the total number of hours of use per machine in 1957. This was found by multiplying the number of acres covered per machine by the performance rate, in terms of hours required per acre. Then the Engineers' estimate of total hours of useful life was divided by the number of hours of use per machine in 1957 to obtain an estimate of the number of years of useful life based on wear alone. The number of years of useful life, in turn, was compared with the estimated number of years until the machine would become obsolete. The lesser number of years was selected as the appropriate useful life for this analysis. This procedure thus recognized the effects of both time and wear on useful life.

The 1958 purchase price<sup>4</sup> for each kind and size of machine was then divided by the appropriate number of years of useful life, as derived above, to obtain an estimate of annual depreciation per machine.

### Other Fixed Costs

Other fixed costs, including interest, taxes, housing, and insurance were assumed to be  $4\frac{1}{2}$  percent annually of the original purchase price.<sup>5</sup> This rate was applied equally to all preharvest machines, regardless of purchase price or amount of use.

### Servicing, and Mounting and Dismounting Costs

Other relatively minor costs, including service time and time spent in mounting and dismounting tractor-powered equipment, were estimated from data derived from various sources, including a previous study of the cost of operating equipment in the Delta area of Mississippi.<sup>6</sup>

<sup>2</sup> For a detailed discussion of the effects of variable and fixed factors on depreciation, see Scoville, O. J., *Fixed and Variable Elements in the Calculation of Machine Depreciation*, *Agricultural Economics Research*, Vol. I, No. 3, July 1949.

<sup>3</sup> American Society of Agricultural Engineers, *Agricultural Engineers Yearbook*, 1959, St. Joseph, Mich., April 1959, p. 106.

<sup>4</sup> Based on unpublished data obtained by Farm Economic Division research workers from equipment dealers in the Delta.

<sup>5</sup> Based on data obtained from *Agricultural Engineers Yearbook*, 1959.

<sup>6</sup> Crowe, G. B., *Tractor Machinery: Costs and Performance*, Miss. Agr. Expt. Sta. Cir. 157, 1951, p. 6.

## Repairs

The computation of annual repair costs, by kind and size of equipment, was also based on data presented in the 1959 edition of the Agricultural Engineers Yearbook. This source presents estimates of the total repair cost over the life of each kind of equipment as a percentage of the original purchase price. This percentage was multiplied by the corresponding 1958 purchase price of each machine and, in turn, the product was divided by the estimated total hours of life. The result--an estimate of the repair cost per hour of use for a specified machine--was then multiplied by the annual number of hours of use per machine in 1957 to provide an estimate of the total annual repair cost per machine. Therefore, the annual repair cost of a specified machine was considered a function of use and was expressed in terms of a constant cost per hour of use.

## Annual Use

The average acreage of use per machine in 1957 by size of farm and for all farms is shown in table 4. These acreages were used in conjunction with operating cost data in calculating costs per acre and costs per hour of use.

The use of machines includes use on farms operated by the owners of the machines and on neighbors' farms if no charge was made for the use of the machine. It does not include the relatively insignificant amount of custom work performed for other farmers.

Operators of small farms used custom machine services infrequently, despite the high fixed costs associated with ownership of equipment. Custom work hired included the use of conventional tillage and dusting equipment. Airplanes were commonly used for poisoning and defoliating on the larger farms.

In general, as size of farm increased, a given size of machine was used over a larger acreage. Within size groups, however, there was a less consistent relationship between size of machine and acreage covered. This was particularly evident in the group of farms with less than 60 acres of cropland each; some farms had large machines that were used for small acreages of cropland.

The data do not facilitate a reliable approximation of the potential economic use of equipment on farms in the Delta. However, it is apparent that existing crop acreages on farms with less than 400 acres of cropland, and especially on those with less than 60 acres of cropland, do not permit full utilization of equipment. For example, Crowe<sup>7</sup> has estimated that the potential annual use of a 2-row stalk cutter, assuming timely operation under existing cropping patterns in the Delta, was 318 acres, as compared with 37 acres of use on survey farms with less than 60 acres of cropland and 46 acres on farms with 60 to 399 acres of cropland. Similarly, the estimated potential annual use of a 2-row middlebreaker was 171 acres, as compared with 35 acres on survey farms having less than 60 acres of cropland.

## Unit Costs

The four components of cost, as figured above, reflect all major costs of owning and operating preharvest equipment, excluding labor, power, and materials used in conjunction with operation. The sum of these four components for each machine was divided by the number of acres or hours of annual use to provide estimates of unit costs of operating the equipment (appendix table 14).

The effect of the amount of annual use of specified machines on costs is shown in tables 4 and 5. The tendency for unit costs to decline with use reflects decreases in fixed costs per acre, since performance rates and variable costs per acre are considered to be constant for a given size of machine over all sizes of farms. The data in tables 4 and 5 are based on average conditions of equipment use and cost in the Delta; individual farm costs and efficiencies may differ from these data unless the expected annual use and purchase price of machines coincide rather closely with those used in this analysis. Table 4, for example, indicates that if a 2-row middlebuster purchased for \$200 (appendix table 13), were used on about 35 acres per year, the expected cost per acre for its use would be \$0.76. Similar cost computations may be made for machines on which annual use or original prices, or both, differ substantially from those used in this analysis.

<sup>7</sup> Crowe (p. 19). For citation, see footnote 6, page 9.

TABLE 4.--Use and cost per acre of equipment, by size of farm, Delta area, Mississippi, 1957<sup>1</sup>

Kind and size of machine	Cropland per farm								All sizes of farms	
	Less than 60 acres		60 to 399 acres		400 to 999 acres		1,000 acres or more			
	Use per machine	Cost per acre	Use per machine	Cost per acre	Use per machine	Cost per acre	Use per machine	Cost per acre	Use per machine	Cost per acre
	Acres	Dollars	Acres	Dollars	Acres	Dollars	Acres	Dollars	Acres	Dollars
Stalk cutter:										
1-row.....	13.1	1.67	---	---	---	---	---	---	13.1	1.67
2-row.....	36.5	.83	46.2	0.66	146.3	0.22	237.7	0.14	108.2	.29
Disk:										
2-row.....	58.4	1.05	160.1	.41	282.5	.28	249.5	.30	180.7	.37
3-row.....	---	---	366.7	.26	417.9	.25	554.4	.23	425.7	.24
4-row.....	---	---	92.4	1.10	379.2	.30	494.6	.25	348.0	.32
Middlebuster:										
1-row.....	12.8	1.23	---	---	---	---	---	---	12.8	1.23
2-row.....	35.2	.76	71.5	.40	81.4	.36	80.2	.37	56.3	.50
3-row.....	54.6	1.52	97.7	.90	193.4	.52	258.4	.42	183.3	.54
4-row.....	---	---	---	---	307.3	.43	620.0	.30	463.7	.33
Fertilizer spreader										
2-row.....	62.7	.14	50.6	.17	91.4	.10	46.7	.18	56.7	.15
3-row.....	18.0	1.90	94.2	.38	197.6	.25	261.9	.23	165.4	.27
4-row.....	30.0	1.39	108.1	.40	231.6	.24	358.9	.22	217.4	.26
Harrows:										
2-row.....	51.3	.13	101.8	.07	170.8	.04	---	---	76.9	.09
3-row.....	18.7	.47	151.0	.06	224.8	.05	---	---	155.3	.06
4-row.....	41.7	.27	198.1	.06	343.9	.04	434.4	.04	316.0	.05
Planter:										
1-row.....	9.6	1.74	64.5	.38	---	---	---	---	14.6	1.16
2-row.....	37.3	.81	69.6	.45	16.6	1.77	42.9	.70	48.2	.63
4-row.....	---	---	141.4	.55	323.2	.33	464.1	.29	307.5	.33
Grain drill:										
2-row.....	24.5	1.65	46.3	.90	169.7	.36	---	---	68.9	.62
3-row.....	31.0	1.76	43.3	1.27	181.0	.37	328.1	.31	135.8	.44
4-row.....	---	---	99.3	.68	521.9	.26	605.5	.24	273.8	.31
Cultivator:										
1-row.....	61.6	.33	---	---	---	---	---	---	61.6	.33
2-row.....	155.6	.35	179.8	.30	106.6	.49	12.5	4.00	144.3	.37
4-row.....	---	---	458.3	.23	774.0	.15	1,141.0	.14	835.8	.15
Moldboard plow:										
2-bottom.....	---	---	6.1	6.49	3.7	10.55	13.1	3.14	5.9	6.70
3-bottom.....	---	---	30.5	1.78	38.8	1.45	99.0	.70	48.1	1.21
4-bottom.....	---	---	80.2	.89	---	---	---	---	80.2	.89
Cultipacker:										
2-row.....	24.0	1.12	17.4	1.55	---	---	---	---	19.6	1.37
3-row.....	---	---	---	---	17.7	1.82	---	---	17.7	1.82
4-row.....	---	---	---	---	---	---	46.5	.85	46.5	.85
Pre-emerge, 4-row..	---	---	9.4	6.36	90.8	.69	175.0	.37	110.3	.57
Post-emerge, 4-row.	---	---	---	---	---	---	158.3	.15	158.3	.15
Flame cultivator,										
4-row.....	---	---	---	---	80.6	1.65	304.2	.49	180.0	.78
Rotary hoe, 4-row..	---	---	38.6	1.02	15.5	2.53	---	---	22.2	1.77
Sprayers and dusters:										
2-row.....	34.2	.54	---	---	---	---	---	---	34.2	.54
4-row.....	69.0	.53	220.2	.19	823.9	.11	1,534.1	.10	751.0	.12
6-row.....	142.5	.33	257.5	.19	1,124.0	.10	---	---	333.0	.17
8-row.....	110.0	.70	242.9	.69	2,235.7	.34	2,661.4	.31	1,805.1	.34

<sup>1</sup> Use and cost in terms of acres covered once over.

### TOTAL COST PER ACRE, BY ENTERPRISE

Cropping practices, as reported by farmers, and machine cost calculations were used in estimating total equipment costs per acre for preharvest work on each major crop (appendix tables 15 through 19).

Table 6 shows that the total cost of using preharvest equipment on cotton excluding custom-hired services varied from an average of \$8.04 per acre on farms with less than 60 acres of cropland to \$5.26 per acre, or 35 percent less, on farms containing 1,000 or more acres of cropland. (See appendix table 15 for computations.) Despite

TABLE 5.--Use and cost per hour of equipment, by size of farm, Delta area, Mississippi, 1957

Kind and size of machine	Cropland per farm								All sizes of farms	
	Less than 60 acres		60 to 399 acres		400 to 999 acres		1,000 acres or more			
	Use per machine	Cost per hour	Use per machine	Cost per hour	Use per machine	Cost per hour	Use per machine	Cost per hour	Use per machine	Cost per hour
	Hours	Dollars	Hours	Dollars	Hours	Dollars	Hours	Dollars	Hours	Dollars
Stalk cutter:										
1-row.....	18.3	1.19	---	---	---	---	---	---	18.3	1.19
2-row.....	14.6	2.08	18.5	1.65	58.5	0.55	95.1	0.35	43.3	.73
Disk:										
2-row.....	35.0	1.74	96.1	.68	169.5	.47	149.7	.50	108.4	.61
3-row.....	---	---	165.0	.59	188.1	.55	249.5	.52	191.6	.54
4-row.....	---	---	27.7	3.67	113.8	.99	148.4	.84	104.4	1.06
Middlebuster:										
1-row.....	14.1	1.12	---	---	---	---	---	---	14.1	1.12
2-row.....	28.2	.94	57.2	.51	65.1	.45	64.2	.46	45.0	.62
3-row.....	27.3	3.04	48.8	1.81	96.7	1.04	129.2	.84	91.7	1.08
4-row.....	---	---	---	---	92.2	1.43	186.0	.99	139.1	1.09
Fertilizer spreader:										
2-row.....	37.6	.23	30.4	.28	54.8	.16	28.0	.30	34.0	.25
3-row.....	5.4	6.32	28.3	1.26	59.3	.82	78.6	.75	49.6	.93
4-row.....	6.0	6.95	21.6	1.99	46.3	1.21	71.8	1.08	43.5	1.31
Harrows:										
2-row.....	20.5	.32	40.7	.17	68.3	.10	---	---	31.3	.21
3-row.....	5.6	1.58	45.3	.21	67.4	.15	---	---	46.6	.21
4-row.....	10.4	1.10	49.5	.25	86.0	.16	108.6	.14	79.0	.17
Planter:										
1-row.....	16.3	1.02	109.6	.22	---	---	---	---	24.8	.68
2-row.....	22.4	1.34	41.8	.75	10.0	2.93	25.7	1.18	28.9	1.05
4 row.....	---	---	42.4	1.82	97.0	1.11	139.2	.95	92.3	1.11
Grain drill:										
2-row.....	14.7	2.75	27.8	1.49	101.8	.60	---	---	41.3	1.03
3-row.....	12.4	4.40	17.3	3.18	72.4	.91	131.2	.77	54.3	1.09
4-row.....	---	---	29.8	2.26	156.6	.85	181.6	.82	82.1	1.04
Cultivator:										
1-row.....	104.7	.19	---	---	---	---	---	---	104.7	.19
2-row.....	93.4	.58	107.9	.51	64.0	.82	7.5	6.67	86.6	.62
4-row.....	---	---	137.5	.78	232.2	.52	342.3	.47	250.7	.51
Moldboard plow:										
2-bottom.....	---	---	10.4	3.81	6.2	6.30	22.3	1.84	10.0	3.95
3-bottom.....	---	---	39.6	1.37	50.4	1.11	128.7	.54	62.5	.93
4-bottom.....	---	---	64.2	1.11	---	---	---	---	64.2	1.11
Cultipacker:										
2-row.....	12.0	2.25	8.7	3.09	---	---	---	---	9.8	2.75
3-row.....	---	---	---	---	7.1	4.53	---	---	7.1	4.53
4-row.....	---	---	---	---	---	---	11.6	3.41	11.6	3.41
Pre-emerge, 4-row..	---	---	2.8	21.36	27.2	2.30	52.5	1.25	33.1	1.91
Post-emerge, 4-row.	---	---	---	---	---	---	47.5	.50	47.5	.50
Flame cultivator,										
4-row.....	---	---	---	---	24.2	5.48	91.3	1.63	54.0	2.59
Rotary hoe, 4-row..	---	---	7.7	5.11	4.6	8.52	---	---	5.5	7.12
Sprayers and dusters:										
2-row.....	27.4	.67	---	---	---	---	---	---	27.4	.67
4-row.....	27.6	1.34	88.1	.46	329.6	.26	613.6	.25	300.4	.28
6-row.....	42.8	1.11	77.3	.65	337.2	.32	---	---	99.9	.57
8-row.....	22.0	3.52	48.6	3.47	447.1	1.71	532.3	1.53	361.0	1.68

the fact that operators of small farms did not use pre-emergence, post-emergence, or flame equipment and that other pieces of equipment used were of small size, average equipment costs per acre were comparatively high.

For crops other than cotton, costs declined even more sharply as size of farm

increased. Preharvest equipment costs per acre of soybeans were 58 percent lower on farms with 400 to 999 acres of cropland than on those with less than 60 acres of cropland. For corn, they were 65 percent lower, for oats, 81 percent lower, and for wheat, 75 percent lower. Preharvest equipment costs in producing soybeans and wheat were a little lower on farms with

TABLE 6.--Total preharvest equipment cost per acre, by enterprise and size of farm, Delta area, Mississippi 1957<sup>1</sup>

Enterprise	Cropland per farm								All sizes of farms	
	Less than 60 acres		60 to 399 acres		400 to 999 acres		1,000 acres or more			
	Acreage per farm	Cost per acre	Acreage per farm	Cost per acre	Acreage per farm	Cost per acre	Acreage per farm	Cost per acre	Acreage per farm	Cost per acre
	<u>Acres</u>	<u>Dollars</u>	<u>Acres</u>	<u>Dollars</u>	<u>Acres</u>	<u>Dollars</u>	<u>Acres</u>	<u>Dollars</u>	<u>Acres</u>	<u>Dollars</u>
Cotton.....	14.7	8.04	46.7	7.12	189.3	6.59	477.2	5.26	87.3	6.30
Soybeans.....	6.6	4.03	41.8	2.97	169.3	1.71	520.0	1.63	81.7	1.98
Corn.....	4.1	5.53	6.3	3.16	15.9	1.95	121.3	2.19	14.8	2.67
Oats.....	2.2	6.11	31.6	2.24	113.5	1.14	111.5	1.38	39.2	1.61
Wheat.....	1.3	4.63	6.8	2.28	53.7	1.14	207.6	1.05	26.2	1.27

<sup>1</sup> Does not include cost of custom-hired operations.

1,000 or more acres of cropland, but they were slightly higher for corn and oats than on the 400- to 999-acre farms. This indicates that the greatest decline in costs per acre occurs on farms with less than 1,000 acres of cropland and that as farms become progressively larger beyond this acreage the per acre cost advantage becomes relatively small or nil.

Fixed costs are responsible for the relatively high equipment costs per acre on small farms. For example, the depreciation cost per acre for the use of 2-row stalk cutters averaged \$0.51 on farms with less than 60 acres of cropland, compared with \$0.08 on farms with 1,000 or more acres of cropland. Similarly, depreciation costs per acre for the use of 4-row sprayers and dusters averaged \$0.29 on small farms and \$0.07 on large farms. These relationships may be calculated from data presented in appendix table 14.

## FARM TRACTOR COSTS

### Methods Used in Estimating Tractor Costs

The various kinds and sizes of tractors were classified as either 2-row or 4-row. Two-row tractors were largely in the 15 to 24 drawbar horsepower category, while 4-row tractors usually had 25 or more drawbar horsepower. Two-row tractors are typically capable of handling two plow bottoms, while 4-row tractors usually handle from three to five plow bottoms. Most

tractors in the Delta are of the row-crop type. Few crawler-type or garden tractors were found on cotton farms in the Delta.

On the basis of this classification, 49 percent of all tractors were 2-row. Wide variations were found among sizes of farms in hours of use per machine and in operating costs per hour of use (tables 7 and 8).

### Fixed Costs

Depreciation was based on the cost of new tractors, assuming a median present age of 6 years<sup>\*</sup> and an expected life of 15 years, or 12,000 hours, whichever was reached first. It was assumed that with a median age of 6 years the median tractor was bought in 1952. Therefore, the 1952 average purchase price was depreciated over a 15-year period, since most tractors in the sample would become obsolete or deteriorate because of weathering before they would be worn out.

Data are not available to indicate the extent of variability, if any, in age of tractors by size of farm. Operators of small farms may purchase used machines more frequently than do operators of large farms, thereby reducing the fixed costs of operation. However, greater repair costs and lower performance rates on older machines may offset any economies gained through lower fixed costs.

<sup>\*</sup> Based on unpublished data, South Atlantic and East South Central cotton farms.

TABLE 7.--Average annual fixed, variable, and unit costs of operating 2-row tractors, by size of farm, Delta area, Mississippi, 1957

Item	Cropland per farm				All sizes of farms
	Less than 60 acres	60 to 399 acres	400 to 999 acres	1,000 acres or more	
	<u>Tractors</u>	<u>Tractors</u>	<u>Tractors</u>	<u>Tractors</u>	<u>Tractors</u>
Tractors, 2-row.....	64	109	53	39	265
	<u>Hours</u>	<u>Hours</u>	<u>Hours</u>	<u>Hours</u>	<u>Hours</u>
Average annual use.....	265	342	523	481	380
Fixed costs per tractor:	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>
Depreciation.....	151.33	151.33	151.33	151.33	151.33
Interest.....	56.75	56.75	56.75	56.75	56.75
Insurance, housing.....	22.70	22.70	22.70	22.70	22.70
Total.....	230.78	230.78	230.78	230.78	230.78
Variable costs per tractor:					
Repairs.....	60.16	77.63	118.72	109.19	86.26
Fuel.....	95.40	123.12	188.28	173.16	136.80
Oil.....	5.25	6.75	10.50	9.50	7.50
Grease.....	5.40	6.80	10.40	9.60	7.60
Service time.....	3.00	4.95	8.29	7.21	5.51
Total.....	169.21	219.25	336.19	308.66	243.67
Total costs per tractor.....	399.99	450.03	566.97	539.44	474.45
Cost per hour of use.....	1.51	1.32	1.08	1.12	1.25

Interest was charged at 5 percent of half the 1952 purchase price, while the annual insurance and housing cost was assumed to be 1 percent of the 1952 purchase price. In using these methods, fixed costs per tractor of a given size were assumed to be the same on all sizes of farms, with resulting wide variations in fixed cost per hour of tractor use.

#### Variable Costs

Annual repair costs were based on survey findings of annual average use per machine, and repair cost data from the 1959 Agricultural Engineers Yearbook.<sup>9</sup> The total repair cost over the life of a tractor was estimated to be 120 percent of the

original purchase price. The total repair cost divided by 12,000--the number of hours of expected life--resulted in a repair cost per hour of use of \$0.227 for 2-row tractors and \$0.341 for 4-row tractors.

Fuel consumption per hour of use was estimated to be 2.0 gallons for 2-row tractors and 2.5 gallons for 4-row tractors.<sup>10</sup> Oil consumption was estimated to be 0.8 and 1.1 quarts per day for 2-row and 4-row tractors, respectively. Time spent in servicing was estimated at 17 minutes per day for 2-row tractors and 24 minutes per day for 4-row tractors. Average market prices were used in evaluating these items of cost.

<sup>10</sup> Estimates based on various sources of published and unpublished data.

<sup>9</sup> For citation, see footnote 3, page 9.

TABLE 8.--Average annual fixed, variable, and unit costs of operating 4-row tractors, by size of farm, Delta area, Mississippi, 1957

Item	Cropland per farm			All sizes of farms
	60 to 399 acres	400 to 999 acres	1,000 acres or more	
	<u>Tractors</u>	<u>Tractors</u>	<u>Tractors</u>	<u>Tractors</u>
Tractors, 4-row.....	54	106	112	272
	<u>Hours</u>	<u>Hours</u>	<u>Hours</u>	<u>Hours</u>
Average annual use.....	388	676	758	653
	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>
Fixed costs per tractor:				
Depreciation.....	227.06	227.06	227.06	227.06
Interest.....	85.15	85.15	85.15	85.15
Insurance, housing.....	34.06	34.06	34.06	34.06
Total.....	346.27	346.27	346.27	346.27
Variable costs per tractor:				
Repairs.....	132.31	230.52	258.48	222.67
Fuel.....	174.60	304.20	341.10	293.94
Oil.....	10.75	18.50	20.75	18.00
Grease.....	7.80	13.60	15.20	13.00
Service time.....	7.91	15.12	16.06	14.09
Total.....	333.37	581.94	651.59	561.70
Total costs per tractor.....	679.64	928.21	997.86	907.97
Cost per hour of use.....	1.75	1.37	1.32	1.39

Based on these estimates, the average variable cost per hour of operating 2-row tractors was \$0.64, of which \$0.36 was for fuel and \$0.23 for repairs. The variable cost per hour for 4-row tractors was \$0.86, of which \$0.45 represented fuel and \$0.34 repairs.

#### Total Preharvest Tractor Costs Per Acre, by Enterprise

Table 9 shows the results of applying these tractor cost rates to practice data for five enterprises in the Delta. (For calculations, see appendix tables 20 through 24.) Tractor costs per acre decreased as size of farm increased, despite greater use of larger, higher priced tractors and the generally more intensive production practices on large farms. As shown by a comparison of average tractor costs in the two largest size-of-farm groups, however, the

opportunity to obtain lower costs of tractor use by expanding crop acreage beyond 1,000 acres is small or nonexistent. The maximum acreage that one tractor can handle efficiently under present cropping patterns in the Delta probably varies little from the average acreage of crops per tractor on large farms, or 116 acres (table 10). Implicit in this conclusion is an assumption that the average farmer having more than 1,000 acres of cropland has invested in tractors only to the extent that they are needed for timely, low-cost operations with the equipment commonly used. The optimum investment in, and use of, tractors could not be determined from available data, but it is known that operators of large farms have the opportunity to utilize more effectively than do operators of small farms the "lumpy" factors, such as tractors, equipment, and labor.

TABLE 9.--Total tractor use and cost per acre, preharvest operations, by enterprise and size of farm, Delta area, Mississippi, 1957<sup>1</sup>

Enterprise	Cropland per farm								All sizes of farms	
	Less than 60 acres		60 to 399 acres		400 to 999 acres		1,000 acres or more			
	Hours per acre <sup>2</sup>	Cost per acre	Hours per acre	Cost per acre	Hours per acre	Cost per acre	Hours per acre	Cost per acre	Hours per acre	Cost per acre
	<u>Hours</u>	<u>Dollars</u>	<u>Hours</u>	<u>Dollars</u>	<u>Hours</u>	<u>Dollars</u>	<u>Hours</u>	<u>Dollars</u>	<u>Hours</u>	<u>Dollars</u>
Cotton.....	8.5	12.85	8.7	12.71	8.1	10.51	8.3	10.61	8.3	11.12
Soybeans.....	3.6	5.44	4.1	6.10	2.9	3.61	2.7	3.57	3.1	4.11
Corn.....	5.4	8.20	4.8	6.60	2.9	3.65	2.4	3.12	3.2	4.31
Oats.....	2.3	3.50	2.2	3.22	1.9	2.48	1.9	2.31	2.0	2.68
Wheat.....	2.2	3.39	2.3	3.32	1.8	2.21	1.9	2.36	1.9	2.42

<sup>1</sup> Does not include costs of custom-hired operations.

<sup>2</sup> In addition, mules were used an average of 0.9 hour per acre on cotton, 0.3 hour on soybeans, and 0.3 hour on corn.

TABLE 10.--Acreage of cropland and crops per tractor, by size of farm, Delta area, Mississippi, 1957

Size of farm	Cropland per tractor	Crops per tractor
	<u>Acres</u>	<u>Acres</u>
Less than 60 acres.....	36.6	31.0
60 to 399 acres.....	57.4	49.3
400 to 999 acres.....	111.9	101.5
1,000 acres or more.....	133.4	116.3
Average.....	92.4	81.4

### Relation of Total Costs to Hours of Use

Figure 1 illustrates the relationship between hours of annual use and cost per hour. Total cost per hour diminishes rapidly as annual use increases from 50 to about 400 hours. The cost decreases gradually from 400 to 800 hours of use. Above 800 hours of use, it remains fairly constant. For purposes of this illustration, a fixed amount of annual depreciation cost was charged in calculating depreciation cost per hour up to 800 hours of annual use. For use exceeding 800 hours, a constant depreciation charge per hour was made on the assumption that beyond 800 hours, depreciation is due largely to wear and tear

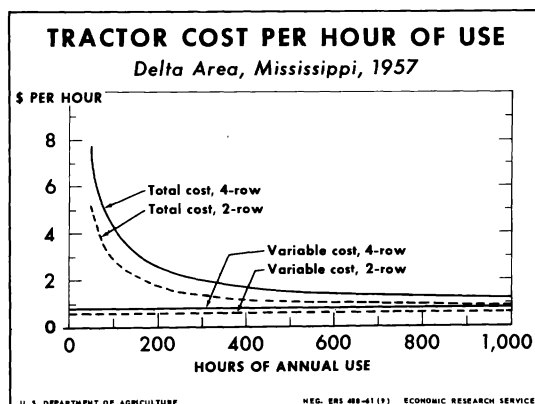


Figure 1

rather than to time or obsolescence. The constant cost per hour was calculated by dividing the price when the tractor was new less salvage value by the hours of expected life. For a 2-row tractor with an original price less salvage value of \$2,270, depreciation cost per hour for tractors used more than 800 hours per year was found by dividing \$2,270 by 12,000, which resulted in \$0.189 per hour. The equivalent for a 4-row tractor was \$0.284 per hour.

### LABOR USE AND COST PER ACRE, PREHARVEST MACHINE OPERATIONS

Although adoption of labor-saving techniques has made rapid headway in the Delta, labor remains an important item of variable cost in machine operation. In this report, labor use pertains only to the operational requirements for the various machines, thereby excluding hand hoeing and chopping labor and any "overhead" labor used for supervision and management. Since available data indicate no significant differences in wage rates by size of farm, labor was valued at \$0.46 per hour on all sizes of farms. More intensive practices on large farms tend to offset the labor-saving effects of using larger equipment

on large farms. Hence, as size of farm increased, there was much less variability in labor cost per acre (table 11) than in equipment cost per acre. Labor requirements and costs, by operation, are given in appendix tables 25 through 29.

### TOTAL COST PER ACRE IN PERFORM- ING PREHARVEST MACHINE OPERATIONS

A summary of comparative costs of machine operations by size of farm is shown in table 12. The total of specified costs per acre--equipment, power, and labor for operating machinery--were lower on large farms, although costs per acre for most crops on farms with more than 1,000 acres of cropland were about the same as for those with 400 to 999 acres. These costs are based on observed combinations of resources, valued in terms of current prices, not on "optimum" combinations. These are the combinations that prevailed in the late fifties and that are likely to prevail in the early sixties. The most likely change in preharvest methods involves the increasing adaptability and use of weed-control machines, which will increase the cost of machine operations and reduce the cost of hand hoeing.

TABLE 11.--Total labor cost per acre for preharvest machine operations, by enterprise and size of farm, Delta area, Mississippi, 1957<sup>1</sup>

Enterprise	Cropland in farms								All sizes of farms	
	Less than 60 acres		60 to 399 acres		400 to 999 acres		1,000 acres or more			
	Hours per acre	Cost per acre	Hours per acre	Cost per acre	Hours per acre	Cost per acre	Hours per acre	Cost per acre	Hours per acre	Cost per acre
	<u>Hours</u>	<u>Dollars</u>	<u>Hours</u>	<u>Dollars</u>	<u>Hours</u>	<u>Dollars</u>	<u>Hours</u>	<u>Dollars</u>	<u>Hours</u>	<u>Dollars</u>
Cotton.....	10.3	4.72	10.1	4.66	10.8	4.98	11.1	5.09	10.7	4.94
Soybeans.....	4.1	1.88	4.3	2.00	3.1	1.41	3.0	1.36	3.3	1.51
Corn.....	6.0	2.74	5.0	2.32	3.1	1.44	2.6	1.20	3.4	1.58
Oats.....	2.3	1.08	2.2	1.01	1.9	.88	1.9	.82	2.0	.91
Wheat.....	2.3	1.04	2.3	1.06	1.8	.81	1.9	.88	1.9	.88

<sup>1</sup> Does not include costs of custom-hired operations.

Since small farms are characterized by relatively fixed amounts of land, family labor, and capital, further mechanization of weed control and other practices on these farms would increase cash costs by displacing unpaid family labor. Large farms

can benefit more than small farms in adopting mechanized practices unless some means are provided by which small farmers can acquire the necessary skills, land, and capital for more efficient combination and use of productive factors.

TABLE 12.--Total cost per acre, preharvest machine operations, by enterprise and size of farm, Delta area, Mississippi, 1957

Enterprise and size of farm by acres of cropland	Excluding custom cost				Custom cost	Total cost
	Equipment	Power	Labor	Total		
	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>
Cotton:						
Less than 60 acres.....	8.04	12.85	4.72	25.61	2.06	27.61
60 to 399 acres.....	7.12	12.71	4.66	24.49	4.18	28.67
400 to 999 acres.....	6.59	10.51	4.98	22.08	3.74	25.82
1,000 acres or more.....	5.26	10.61	5.09	20.96	1.91	22.87
Soybeans:						
Less than 60 acres.....	4.03	5.44	1.88	11.35	.20	11.55
60 to 399 acres.....	2.97	6.10	2.00	11.07	.04	11.11
400 to 999 acres.....	1.71	3.61	1.41	6.73	---	6.73
1,000 acres or more.....	1.63	3.57	1.36	6.56	---	6.56
Corn:						
Less than 60 acres.....	5.53	8.20	2.74	16.47	.21	16.68
60 to 399 acres.....	3.16	6.60	2.32	12.08	---	12.08
400 to 999 acres.....	1.95	3.65	1.44	7.04	---	7.04
1,000 acres or more.....	2.19	3.12	1.20	6.51	---	6.51
Oats:						
Less than 60 acres.....	6.11	3.50	1.08	10.69	.12	10.81
60 to 399 acres.....	2.24	3.22	1.01	6.47	.51	6.98
400 to 999 acres.....	1.14	2.48	.88	4.50	.79	5.29
1,000 acres or more.....	1.38	2.31	.82	4.51	---	4.51
Wheat:						
Less than 60 acres.....	4.63	3.39	1.04	9.06	---	9.06
60 to 399 acres.....	2.28	3.32	1.06	6.66	1.14	7.80
400 to 999 acres.....	1.14	2.21	.81	4.16	.53	4.69
1,000 acres or more.....	1.05	2.36	.88	4.29	---	4.29

# APPENDIX

TABLE 13.--Preharvest equipment: Approximate price when new, expected life, repair cost, and performance time, by size of equipment, Delta area, Mississippi, 1957

Kind and size of machine	Price new <sup>1</sup>	Expected life <sup>2</sup>		Repair costs <sup>2</sup>		Servicing and mounting, as percentage of price new <sup>3</sup>	Performance time per acre <sup>4</sup>	
		Total hours	Years until obsolete	Lifetime, as percentage of price new	Per hour of use		Equipment	Labor
	Dollars	Hours	Years	Percent	Dollars	Percent	Hours	Hours
Stalk cutter:								
1-row.....	160	2,000	12	35	0.028	0.5	1.4	1.4
2-row.....	225	2,000	12	35	.039	.4	.4	.4
4-row.....	400	2,000	12	35	.070	.3	.2	.2
Disk:								
2 row.....	485	2,000	15	30	.073	.9	.6	.6
3-row.....	600	2,000	15	30	.090	.8	.45	.45
4-row.....	834	2,000	15	30	.125	.6	.3	.3
Middlebuster:								
1-row.....	120	2,000	15	80	.048	1.4	1.1	1.1
2-row.....	200	2,000	15	80	.080	1.0	.8	.8
3-row.....	630	2,000	15	80	.252	.9	.5	.5
4-row.....	840	2,000	15	80	.336	.8	.3	.3
Fertilizer spreader:								
2-row.....	75	1,200	20	25	.016	1.0	.6	.6
3-row.....	325	1,200	20	25	.068	.9	.3	.3
4-row.....	400	1,200	20	25	.083	.8	.2	.2
Harrow:								
2-row.....	60	2,000	20	40	.012	1.0	.4	.4
3-row.....	85	2,000	20	40	.017	.8	.3	.3
4-row.....	110	2,000	20	40	.022	.7	.25	.25
Planter:								
1-row.....	120	1,200	20	30	.030	4.0	1.7	1.7
2-row.....	230	1,200	20	30	.058	3.0	.6	.8
4-row.....	650	1,200	20	30	.162	1.3	.3	.5
Grain drill:								
2-row.....	400	1,200	20	25	.083	.3	.6	.6
3-row.....	545	1,200	20	25	.114	.25	.4	.4
4-row.....	650	1,200	20	25	.135	.25	.3	.3
Cultivator:								
1-row.....	104	2,500	12	40	.017	5.0	1.7	1.7
2-row.....	285	2,500	12	40	.046	4.6	.6	.6
4-row.....	575	2,500	12	40	.092	3.5	.3	.3
Sprayers and dusters:								
2-row.....	100	1,500	10	50	.033	3.0	.8	1.6
4-row.....	200	1,500	10	50	.067	3.0	.4	.8
6-row.....	250	1,500	10	50	.083	3.0	.3	.6
8-row.....	1,214	1,500	10	50	.405	2.0	.2	.4
Cultipacker:								
2-row.....	270	2,000	20	15	.020	.4	.5	.5
3-row.....	325	2,000	20	15	.024	.35	.4	.4
4-row.....	400	2,000	20	15	.030	.3	.25	.25
Moldboard plow:								
2-bottom.....	325	2,000	15	80	.130	.6	1.7	1.7
3-bottom.....	410	2,000	15	80	.164	.5	1.3	1.3
4-bottom.....	500	2,000	15	80	.200	.5	.8	.8
Pre-emerge, 4-row....	340	1,500	10	50	.113	3.0	.3	.5
Post-emerge, 4-row....	125	1,500	10	50	.042	3.0	.3	.5
Rotary hoe, 4-row....	340	1,500	15	20	.045	.3	.2	.2
Flame cultivator, 4-row	725	1,500	10	50	.242	3.0	.3	.3

<sup>1</sup> 1958 prices, based on unpublished data obtained by FED from farm equipment dealers in the Delta.

<sup>2</sup> Based on data published in Agricultural Engineers Yearbook, 1959 edition, compiled by C. B. Richey, p. 106.

<sup>3</sup> Estimates based on published and unpublished data.

<sup>4</sup> Based on data in Cotton Production Practices in the Delta Area of Mississippi, by R. J. Saville, J. P. Gaines, and G. B. Crowe. Miss. Agr. Expt. Sta. M. R. 2, 61 pp., Dec. 1950, and Southern Regional Project S-42.

TABLE 14.--Preharvest equipment: Annual costs of operation, by specified kinds of machines and size of farm,  
Delta area, Mississippi, 1957

Size of farm by acres of cropland, and kind and size of machine	Annual cost per machine					Annual use per machine		Cost-	
	Fixed		Variable		Total	Acreage, once over	Hours	Per acre once over	Per hour
	Depre- ciation	Other <sup>1</sup>	Repairs	Other <sup>2</sup>					
LESS THAN 60 ACRES	Dollars	Dollars	Dollars	Dollars	Dollars	Acres	Hours	Dollars	Dollars
Stalk cutter:									
1-row.....	13.33	7.20	0.51	0.80	21.84	13.1	18.3	1.67	1.19
2-row.....	18.75	10.12	.57	.90	30.34	36.5	14.6	.83	2.08
Disk, 2-row.....	32.33	21.82	2.56	4.36	61.07	58.4	35.0	1.05	1.74
Middlebuster:									
1-row.....	8.00	5.40	.68	1.68	15.76	12.8	14.1	1.23	1.12
2-row.....	13.33	9.00	2.26	2.00	26.59	35.2	28.2	.76	.94
3-row.....	42.00	28.35	6.88	5.67	82.90	54.6	27.3	1.52	3.04
Fertilizer spreader:									
2-row.....	3.75	3.38	.60	.75	8.48	62.7	37.6	.14	.23
3-row.....	16.25	14.62	.37	2.92	34.16	18.0	5.4	1.90	6.32
4-row.....	20.00	18.00	.50	3.20	41.70	30.0	6.0	1.39	6.95
Harrow:									
2-row.....	3.00	2.70	.25	.60	6.55	51.3	20.5	.13	.32
3-row.....	4.25	3.82	.10	.68	8.85	18.7	5.6	.47	1.58
4-row.....	5.50	4.95	.23	.77	11.45	41.7	10.4	.27	1.10
Planter:									
1-row.....	6.00	5.40	.49	4.80	16.69	9.6	16.3	1.74	1.02
2-row.....	11.50	10.35	1.30	6.90	30.05	37.3	22.4	.81	1.34
Grain drill:									
2-row.....	20.00	18.00	1.22	1.20	40.42	24.5	14.7	1.65	2.75
3-row.....	27.25	24.52	1.41	1.36	54.54	31.0	12.4	1.76	4.40
Cultivator:									
1-row.....	8.67	4.68	1.78	5.20	20.33	61.6	104.7	.33	.19
2-row.....	23.75	12.82	4.30	13.11	53.98	155.6	93.4	.35	.58
Sprayers and dusters:									
2-row.....	10.00	4.50	.90	3.00	18.40	34.2	27.4	.54	.67
4-row.....	20.00	9.00	1.85	6.00	36.85	69.0	27.6	.53	1.34
6-row.....	25.00	11.25	3.55	7.50	47.30	142.5	42.8	.33	1.11
8-row.....	45.00	20.25	3.30	9.00	77.55	110.0	22.0	.70	3.52
Cultipacker, 2-row.....	13.50	12.15	.24	1.08	26.97	24.0	12.0	1.12	2.25
60 to 399 ACRES									
Stalk cutter, 2-row.....	18.75	10.12	.72	.90	30.49	46.2	18.5	.66	1.65
Disk:									
2-row.....	32.33	21.82	7.02	4.36	65.53	160.1	96.1	.41	.68
3-row.....	50.00	27.00	14.85	4.80	96.65	366.7	165.0	.26	.59
4-row.....	55.60	37.53	3.46	5.00	101.59	92.4	27.7	1.10	3.67
Middlebuster:									
2-row.....	13.33	9.00	4.58	2.00	28.91	71.5	57.2	.40	.51
3-row.....	42.00	28.35	12.30	5.67	88.32	97.7	48.8	.90	1.81
Fertilizer spreader:									
2-row.....	3.75	3.38	.49	.75	8.37	50.6	30.4	.17	.28
3-row.....	16.25	14.62	1.92	2.92	35.71	94.2	28.3	.38	1.26
4-row.....	20.00	18.00	1.79	3.20	42.99	108.1	21.6	.40	1.99
Harrow:									
2-row.....	3.00	2.70	.49	.60	6.79	101.8	40.7	.07	.17
3-row.....	4.25	3.82	.77	.68	9.52	151.0	45.3	.06	.21
4-row.....	5.50	4.95	1.09	.77	12.31	198.1	49.5	.06	.25
Planter:									
1-row.....	10.91	5.40	3.29	4.80	24.40	64.5	109.6	.38	.22
2-row.....	11.50	10.35	2.42	6.90	31.17	69.6	41.8	.45	.75
4-row.....	32.50	29.25	6.87	8.45	77.07	141.4	42.4	.55	1.82
Grain drill:									
2-row.....	20.00	18.00	2.31	1.20	41.51	46.3	27.8	.90	1.49
3-row.....	27.25	24.52	1.97	1.36	55.10	43.3	17.3	1.27	3.18
4-row.....	32.50	29.25	4.02	1.62	67.39	99.3	29.8	.68	2.26
Cultivator:									
2-row.....	23.75	12.82	4.96	13.11	54.64	179.8	107.9	.30	.51
4-row.....	47.92	25.88	12.65	20.12	106.57	458.3	137.5	.23	.78

See footnotes at end of table.

-Continued

TABLE 14.--Preharvest equipment: Annual costs of operation, by specified kinds of machines and size of farm, Delta area, Mississippi, 1957--Continued

Size of farm by acres of cropland, and kind and size of machine	Annual cost per machine					Annual use per machine		Cost-	
	Fixed		Variable		Total	Acreage, once over	Hours	Per acre once over	Per hour
	Depre- ciation	Other <sup>1</sup>	Repairs	Other <sup>2</sup>					
60 to 399 ACRES--Con.	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Acres</u>	<u>Hours</u>	<u>Dollars</u>	<u>Dollars</u>
Sprayers and dusters:									
4-row.....	20.00	9.00	5.90	6.00	40.90	220.2	88.1	0.19	0.46
6-row.....	25.00	11.25	6.42	7.50	50.17	257.5	77.3	.19	.65
8-row.....	93.00	41.85	15.07	18.60	168.52	242.9	48.6	.69	3.47
Cultipacker, 2-row.....	13.50	12.15	.17	1.08	26.90	17.4	8.7	1.55	3.09
Moldboard plow:									
2-bottom.....	21.67	14.62	1.35	1.95	39.59	6.1	10.4	6.49	3.81
3-bottom.....	27.33	18.45	6.49	2.05	54.32	30.5	39.6	1.78	1.37
4-bottom.....	33.33	22.50	12.84	2.50	71.17	80.2	64.2	.89	1.11
Pre-emerge, 4-row.....	34.00	15.30	.32	10.20	59.82	9.4	2.8	6.36	21.36
Rotary hoe, 4-row.....	22.67	15.30	.35	1.02	39.34	38.6	7.7	1.02	5.11
400 to 999 ACRES									
Stalk cutter, 2-row.....	18.75	10.12	2.28	.90	32.05	146.3	58.5	.22	.55
Disk:									
2-row.....	40.42	21.82	12.37	4.36	78.97	282.5	169.5	.28	.47
3-row.....	54.55	27.00	16.92	4.80	103.27	417.9	188.1	.25	.55
4-row.....	55.60	37.53	14.22	5.00	112.35	379.2	113.8	.30	.99
Middlebuster:									
2-row.....	13.33	9.00	5.21	2.00	29.54	81.4	65.1	.36	.45
3-row.....	42.00	28.35	24.37	5.67	100.39	193.4	96.7	.52	1.04
4-row.....	56.00	37.80	30.98	6.72	131.50	307.3	92.2	.43	1.43
Fertilizer spreader:									
2-row.....	3.75	3.38	.88	.75	8.76	91.4	54.8	.10	.16
3-row.....	27.08	14.62	4.03	2.92	48.65	197.6	59.3	.25	.82
4-row.....	30.77	18.00	3.84	3.20	55.81	231.6	46.3	.24	1.21
Harrow:									
2-row.....	3.00	2.70	.82	.60	7.12	170.8	68.3	.04	.10
3-row.....	4.25	3.82	1.15	.68	9.90	224.8	67.4	.04	.15
4-row.....	5.79	4.95	1.89	.77	13.40	343.9	86.0	.04	.16
Planter:									
2-row.....	11.50	10.35	.58	6.90	29.33	16.6	10.0	1.77	2.93
4-row.....	54.17	29.25	15.71	8.45	107.58	323.2	97.0	.33	1.11
Grain drill:									
2-row.....	33.33	18.00	8.45	1.20	60.98	169.7	101.8	.36	.60
3-row.....	32.06	24.52	8.25	1.36	66.19	181.0	72.4	.37	.91
4-row.....	81.25	29.25	21.14	1.62	133.26	521.9	156.6	.26	.85
Cultivator:									
2-row.....	23.75	12.82	2.94	13.11	52.62	106.6	64.0	.49	.82
4-row.....	52.27	25.88	21.36	20.12	119.63	774.0	232.2	.15	.52
Sprayers and dusters:									
4-row.....	50.00	9.00	22.08	6.00	87.08	823.9	329.6	.11	.26
6-row.....	62.50	11.25	27.99	7.50	109.24	1,124.0	337.2	.10	.32
8-row.....	464.33	62.68	207.45	27.86	762.32	2,235.7	447.1	.34	1.71
Cultipacker, 3-row.....	16.25	14.63	.17	1.14	32.19	17.7	7.1	1.82	4.53
Moldboard plow:									
2-bottom.....	21.67	14.62	.81	1.95	39.05	3.7	6.2	10.55	6.30
3-bottom.....	27.33	18.45	8.27	2.05	56.10	38.8	50.4	1.45	1.11
Pre-emerge, 4-row.....	34.00	15.30	3.07	10.20	62.57	90.8	27.2	.69	2.30
Rotary hoe, 4-row.....	22.67	15.30	.14	1.02	39.13	15.5	4.6	2.53	8.52
Flame cultivator, 4-row....	72.50	32.62	5.86	21.75	132.73	80.6	24.2	1.65	5.48
1,000 ACRES OR MORE									
Stalk cutter, 2-row.....	18.75	10.12	3.71	.90	33.48	237.7	95.1	.14	.35
Disk:									
2-row.....	37.31	21.82	10.93	4.36	74.42	249.5	149.7	.30	.50
3-row.....	75.00	27.00	22.46	4.80	129.26	554.4	249.5	.23	.52
4-row.....	64.15	37.53	18.55	5.00	125.23	494.6	148.4	.25	.84
Middlebuster:									
2-row.....	13.33	9.00	5.14	2.00	29.47	80.2	64.2	.37	.46
3-row.....	42.00	28.35	32.56	5.67	108.58	258.4	129.2	.42	.84
4-row.....	76.36	37.80	62.50	6.72	183.38	620.0	186.0	.30	.99

See footnotes at end of table.

-Continued

TABLE 14.--Preharvest equipment: Annual costs of operation, by specified kinds of machines and size of farm, Delta area, Mississippi, 1957--Continued

Size of farm by acres of cropland, and kind and size of machine	Annual cost per machine					Annual use per machine		Cost-	
	Fixed		Variable		Total	Acreage, once over	Hours	Per acre once over	Per hour
	Depre- ciation	Other <sup>1</sup>	Repairs	Other <sup>2</sup>					
1,000 ACRES OR MORE--Con.	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Acres</u>	<u>Hours</u>	<u>Dollars</u>	<u>Dollars</u>
Fertilizer spreader:									
2-row.....	3.75	3.38	0.45	0.75	8.33	46.7	28.0	0.18	0.30
3-row.....	36.11	14.62	5.34	2.92	58.99	261.9	78.6	.23	.75
4-row.....	50.00	18.00	5.96	3.20	77.36	358.9	71.8	.22	1.08
Harrow, 4-row.....	7.33	4.95	2.39	.77	15.44	434.4	108.6	.04	.14
Planter:									
2-row.....	11.50	10.35	1.49	6.90	30.24	42.9	25.7	.70	1.18
4-row.....	72.22	29.25	22.56	8.45	132.48	464.1	139.2	.29	.95
Grain drill:									
3-row.....	60.56	24.52	14.96	1.36	101.40	328.1	131.2	.31	.77
4-row.....	92.86	29.25	24.52	1.62	148.25	605.5	181.6	.24	.82
Cultivator:									
2-row.....	23.75	12.82	.34	13.11	50.02	12.5	7.5	4.00	6.67
4-row.....	82.14	25.88	31.49	20.12	159.63	1,141.0	342.3	.14	.47
Sprayer and duster:									
4-row.....	100.00	9.00	41.11	6.00	156.11	1,534.1	613.6	.10	.25
8-row.....	470.00	63.45	250.21	28.20	811.86	2,661.4	532.3	.31	1.53
Cultipacker, 4-row.....	20.00	18.00	.35	1.20	39.55	46.5	11.6	.85	3.41
Pre-emerge, 4-row.....	34.00	15.30	5.93	10.20	65.43	175.0	52.5	.37	1.25
Post-emerge, 4-row.....	12.50	5.62	2.00	3.75	23.87	158.3	47.5	.15	.50
Flame cultivator, 4-row....	72.50	32.62	22.09	21.75	148.96	304.2	91.3	.49	1.63
Moldboard plow:									
2-bottom.....	21.67	14.62	2.90	1.95	41.14	13.1	22.3	3.14	1.84
3-bottom.....	27.33	18.45	21.11	2.05	68.94	99.0	128.7	.70	.54

<sup>1</sup> Interest, taxes, housing and insurance.

<sup>2</sup> Servicing, mounting and dismounting.

TABLE 15.--Cotton production: Preharvest equipment cost per acre, by specified kinds of machines and size of farm, Delta area, Mississippi, 1957<sup>1</sup>

Operation and size of equipment	Less than 60 acres of cropland					60 to 399 acres of cropland				
	Cost per acre once over <sup>2</sup>	Times over	Cost per acre, all times over	Percentage of cotton acreage equipment was used on	Cost per acre, all land in cotton	Cost per acre once over <sup>2</sup>	Times over	Cost per acre, all times over	Percentage of cotton acreage equipment was used on	Cost per acre, all land in cotton
	Dollars	Number	Dollars	Percent	Dollars	Dollars	Number	Dollars	Percent	Dollars
Cut stalks:										
1-row.....	1.67	1.0	1.67	5.3	0.09	---	---	---	---	---
2-row.....	.83	1.1	.91	59.0	.54	0.66	1.0	0.66	89.7	0.59
Disk:										
2-row.....	1.05	1.7	1.78	72.6	1.29	.41	1.9	.78	93.9	.73
3-row.....	---	---	---	---	---	.26	1.7	.44	13.9	.06
4-row.....	---	---	---	---	---	1.10	1.4	1.54	9.4	.14
Bed:										
1-row.....	1.23	1.8	2.21	4.4	.10	---	---	---	---	---
2-row.....	.76	1.4	1.06	81.7	.87	.40	1.4	.56	41.4	.23
3-row.....	1.52	1.6	2.43	4.1	.10	.90	1.4	1.26	50.5	.64
Fertilize:										
2-row.....	.14	1.2	.17	78.8	.13	.17	1.0	.17	33.2	.06
3-row.....	1.90	1.1	2.09	6.1	.13	.38	1.3	.49	13.4	.07
4-row.....	1.39	1.0	1.39	3.4	.05	.40	1.1	.44	53.0	.23
Harrow:										
2-row.....	.13	1.3	.17	69.4	.12	.07	1.6	.11	18.4	.02
3-row.....	.47	1.0	.47	3.9	.02	.06	1.0	.06	2.2	( <sup>3</sup> )
4-row.....	.27	1.7	.46	17.2	.08	.06	1.2	.07	66.9	.05
Plant:										
1-row.....	1.74	1.0	1.74	4.6	.08	.38	1.0	.38	1.1	( <sup>3</sup> )
2-row.....	.81	1.0	.81	92.0	.75	.45	1.0	.45	40.6	.18
4-row.....	---	---	---	---	---	.55	1.0	.55	58.3	.32
Replant:										
2-row.....	.81	1.3	1.05	10.4	.11	.45	1.0	.45	8.8	.04
4-row.....	---	---	---	---	---	.55	1.0	.55	12.3	.07
Cultivate:										
1-row.....	.33	7.4	2.44	5.6	.14	---	---	---	---	---
2-row.....	.35	7.9	2.76	90.0	2.48	.30	7.8	2.34	47.3	1.11
4-row.....	---	---	---	---	---	.23	8.5	1.96	52.7	1.03
Poison:										
2-row.....	.54	4.1	2.21	2.6	.06	---	---	---	---	---
4-row.....	.53	6.0	3.18	5.5	.17	.19	7.4	1.41	20.8	.29
6-row.....	.33	6.8	2.24	18.2	.41	.19	6.7	1.27	28.2	.36
8-row.....	.70	8.0	5.60	5.7	.32	.69	8.2	5.66	5.5	.31
Plow:										
2-bottom.....	---	---	---	---	---	6.49	1.0	6.49	3.4	.22
3-bottom.....	---	---	---	---	---	1.78	1.0	1.78	11.3	.20
4-bottom.....	---	---	---	---	---	.89	1.0	.89	1.5	.01
Hoe, rotary, 4-row...	---	---	---	---	---	1.02	3.0	3.06	3.3	.10
Pre-emerge, 4-row....	---	---	---	---	---	6.36	1.0	6.36	1.0	.06
All operations...	---	---	---	---	8.04	---	---	---	---	7.12
	400 to 999 acres					1,000 acres or more				
Cut stalks:										
2-row.....	.22	1.1	.24	86.6	.21	.14	1.1	.15	100.0	.15
4-row.....	.39	1.0	.39	8.9	.03	---	---	---	---	---
Disk:										
2-row.....	.28	1.7	.48	54.9	.26	.30	1.8	.54	23.6	.13
3-row.....	.25	1.4	.35	39.0	.14	.23	1.4	.32	31.8	.10
4-row.....	.30	1.4	.42	18.1	.08	.25	1.2	.30	35.7	.11
Bed:										
2-row.....	.36	1.4	.50	6.0	.03	.37	1.8	.67	3.3	.02
3-row.....	.52	1.3	.68	69.9	.48	.42	1.4	.59	60.8	.36
4-row.....	.43	1.6	.69	8.0	.06	.30	2.0	.60	9.7	.06
Fertilize:										
2-row.....	.10	1.0	.10	3.3	( <sup>3</sup> )	.18	1.0	.18	23.5	.04
3-row.....	.25	1.2	.30	24.4	.07	.23	1.0	.23	20.7	.05
4-row.....	.24	1.5	.36	72.3	.26	.22	1.4	.31	64.7	.20

See footnotes at end of table.

-Continued

TABLE 15.--Cotton production: Preharvest equipment cost per acre, by specified kinds of machine and size of farm, Delta area, Mississippi, 1957<sup>1</sup>--Continued

Operation and size of equipment	400 to 999 acres					1,000 acres or more				
	Cost per acre once over <sup>2</sup>	Times over	Cost per acre all times over	Percentage of cotton acreage equipment was used on	Cost per acre, all land in cotton	Cost per acre once over <sup>2</sup>	Times over	Cost per acre, all times over	Percentage of cotton acreage equipment was used on	Cost per acre, all land in cotton
Harrow:										
2-row.....	0.04	1.5	0.06	5.5	( <sup>3</sup> )	---	---	---	---	---
3-row.....	.04	1.0	.04	6.0	( <sup>3</sup> )	---	---	---	---	---
4-row.....	.04	1.4	.06	71.7	.04	.04	1.6	.06	69.9	.04
Plant, 4-row.....	.33	1.0	.33	100.0	.33	.29	1.0	.29	100.0	.29
Replant, 4-row.....	.33	1.1	.36	17.5	.06	.29	1.0	.29	8.5	.02
Cultivate:										
2-row.....	.49	10.2	5.00	4.2	.21	---	---	---	---	---
4-row.....	.15	8.8	1.32	95.8	1.26	.14	9.5	1.33	100.0	1.33
Flame cultivate,										
4-row.....	1.65	2.2	3.63	7.6	.28	.49	2.5	1.22	18.4	.22
Hoe, rotary, 4-row...	2.53	1.0	2.53	5.0	.13	---	---	---	---	---
Poison:										
4-row.....	.09	6.2	.56	40.2	.23	.10	5.8	.58	72.7	.42
6-row.....	.10	7.1	.71	11.9	.08	---	---	---	---	---
8-row.....	.34	11.8	4.01	50.1	2.01	.31	7.6	2.36	60.1	1.42
Plow:										
2-bottom.....	10.55	1.0	10.55	1.0	.11	3.14	1.0	3.14	2.7	.08
3-bottom.....	1.45	1.0	1.45	6.6	.10	.70	1.0	.70	13.2	.09
Pre-emerge, 4-row....	.69	1.0	.69	18.8	.13	.37	1.0	.37	26.7	.10
Post-emerge, 4-row...	---	---	---	---	---	.15	1.0	.15	18.1	.03
All operations...	---	---	---	---	6.59	---	---	---	---	5.26

<sup>1</sup> Does not include custom-hired operations.

<sup>2</sup> See table 14.

<sup>3</sup> Less than one-half cent.

TABLE 16.--Soybean production: Preharvest equipment costs per acre, by size of farm, Delta area, Mississippi, 1957<sup>1</sup>

Operation and size of equipment	Less than 60 acres of cropland					60 to 399 acres of cropland				
	Cost per acre once over <sup>2</sup>	Times over	Cost per acre, all times over	Percentage of soybean acreage equipment was used on	Cost per acre, all land in soybeans	Cost per acre once over <sup>2</sup>	Times over	Cost per acre, all times over	Percentage of soybean acreage equipment was used on	Cost per acre, all land in soybeans
	<u>Dollars</u>	<u>Number</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Number</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>
Cut stalks, 2-row....	.83	1.0	0.83	3.2	0.03	0.66	1.0	0.66	3.2	.02
Disk:										
2-row.....	1.05	1.7	1.78	82.1	1.46	.41	2.2	.90	85.7	.77
3-row.....	---	---	---	---	---	.26	3.0	.78	5.6	.04
4-row.....	---	---	---	---	---	1.10	1.0	1.10	2.0	.02
Bed:										
1-row.....	1.23	1.2	1.48	7.3	.11	---	---	---	---	---
2-row.....	.76	1.4	1.06	59.3	.63	.40	1.2	.48	47.2	.23
3-row.....	1.52	1.5	2.28	5.5	.13	.90	1.3	1.17	33.4	.39
Harrow:										
2-row.....	.13	1.4	.18	53.2	.10	.07	2.1	.15	13.0	.02
4-row.....	.27	1.2	.32	11.4	.04	.06	1.5	.09	83.6	.08
Plant:										
1-row.....	1.74	1.0	1.74	5.9	.10	.38	1.0	.38	1.4	.01
2-row.....	.81	1.0	.81	80.6	.65	.45	1.0	.45	29.5	.13
4-row.....	---	---	---	---	---	.55	1.0	.55	69.1	.38
Replant:										
1-row.....	1.74	1.0	1.74	2.1	.04	---	---	---	---	---
2-row.....	.81	1.0	.81	.9	.01	.45	1.0	.45	2.0	.01
Cultivate:										
1-row.....	.33	2.2	.73	7.3	.05	---	---	---	---	---
2-row.....	.35	2.9	1.02	66.8	.68	.30	3.3	.99	33.6	.33
4-row.....	---	---	---	---	---	.23	3.9	.90	59.9	.54
All operations...	---	---	---	---	4.03	---	---	---	---	2.97
	400 to 999 acres					1,000 acres or more				
Cut stalks: 2-row....	.22	1.0	.22	7.2	.02	---	---	---	---	---
Disk:										
2-row.....	.28	2.3	.64	58.4	.37	.30	1.6	.48	34.1	.16
3-row.....	.25	2.3	.58	21.2	.12	.23	2.3	.53	48.4	.26
4-row.....	.30	1.8	.54	15.1	.08	.25	1.3	.32	17.5	.06
Bed:										
2-row.....	.36	2.0	.72	2.1	.02	---	---	---	---	---
3-row.....	.52	1.1	.57	31.6	.18	.42	1.3	.55	66.5	.37
4-row.....	.43	1.0	.43	11.6	.05	.30	1.0	.30	13.5	.04
Harrow, 4-row.....	.04	1.4	.06	66.8	.04	.04	1.3	.05	71.9	.04
Plant:										
2-row.....	1.77	1.0	1.77	2.1	.04	---	---	---	---	---
4-row.....	.33	1.0	.33	97.9	.32	.29	1.0	.29	100.0	.29
Replant, 4-row.....	.33	1.0	.33	4.4	.01	---	---	---	---	---
Cultivate:										
2-row.....	.49	4.0	1.96	4.2	.08	---	---	---	---	---
4-row.....	.15	3.0	.45	85.3	.38	.14	2.9	.41	100.0	.41
All operations...	---	---	---	---	1.71	---	---	---	---	1.63

<sup>1</sup> Does not include custom-hired operations.<sup>2</sup> See table 14.

TABLE 17.--Corn production: Preharvest equipment costs per acre, by size of farm, Delta area, Mississippi, 1957<sup>1</sup>

Operation and size of equipment	Less than 60 acres of cropland					60 to 399 acres of cropland				
	Cost per acre once over <sup>2</sup>	Times over	Cost per acre, all times over	Percentage of corn acreage equipment was used on	Cost per acre, all land in corn	Cost per acre once over <sup>2</sup>	Times over	Cost per acre, all times over	Percentage of corn acreage equipment was used on	Cost per acre, all land in corn
	Dollars	Number	Dollars	Percent	Dollars	Dollars	Number	Dollars	Percent	Dollars
Cut stalks:										
1-row.....	1.67	1.0	1.67	3.9	0.07	---	---	---	---	---
2-row.....	.83	1.2	1.00	11.2	.11	0.66	1.0	0.66	9.2	0.06
Disk:										
2-row.....	1.05	1.9	2.00	86.2	1.72	.41	2.0	.82	96.0	.79
3-row.....	---	---	---	---	---	.26	2.0	.52	4.0	.02
Bed:										
1-row.....	1.23	1.7	2.09	5.5	.11	---	---	---	---	---
2-row.....	.76	1.4	1.06	82.6	.88	.40	1.2	.48	36.3	.17
3-row.....	1.52	2.0	3.04	2.8	.09	.90	1.0	.90	42.5	.38
Fertilize:										
2-row.....	.14	1.0	.14	52.8	.07	.17	1.0	.17	54.0	.09
3-row.....	1.90	1.0	1.90	.8	.02	.38	1.0	.38	8.6	.03
4-row.....	1.39	1.0	1.39	2.8	.04	.40	1.0	.40	22.8	.09
Harrow:										
2-row.....	.13	1.3	.17	74.8	.13	.07	1.4	.10	20.1	.02
4-row.....	.27	1.2	.32	12.2	.04	.06	1.3	.08	72.2	.06
Plant:										
1-row.....	1.74	1.0	1.74	5.1	.09	---	---	---	---	---
2-row.....	.81	1.0	.81	94.9	.77	.45	1.0	.45	66.4	.30
4-row.....	---	---	---	---	---	.55	1.0	.55	33.6	.18
Replant:										
1-row.....	1.74	1.0	1.74	1.6	.03	---	---	---	---	---
2-row.....	.81	1.1	.89	24.3	.22	.45	1.0	.45	2.9	.01
4-row.....	---	---	---	---	---	.55	1.0	.55	4.3	.02
Cultivate:										
1-row.....	.33	1.9	.63	5.1	.03	---	---	---	---	---
2-row.....	.35	3.6	1.26	86.0	1.08	.30	3.8	1.14	63.2	.72
4-row.....	---	---	---	---	---	.23	2.8	.64	33.9	.22
Poison:										
6-row.....	.33	2.0	.66	1.2	.01	---	---	---	---	---
8-row.....	.70	1.0	.70	2.8	.02	---	---	---	---	---
All operations...	---	---	---	---	5.53	---	---	---	---	3.16
	400 to 999 acres					1,000 acres or more				
Cut stalks: 2-row....	.22	1.0	.22	81.1	.18	.14	1.0	.14	4.0	.01
Disk:										
2-row.....	.28	1.7	.48	88.5	.42	.30	1.2	.36	22.5	.08
3-row.....	.25	1.0	.25	11.5	.03	.23	1.5	.34	31.6	.11
4-row.....	---	---	---	---	---	.25	2.0	.50	45.9	.23
Bed:										
2-row.....	.36	1.0	.36	3.3	.01	---	---	---	---	---
3-row.....	.52	1.2	.62	43.4	.27	.42	1.2	.50	66.0	.33
4-row.....	.43	1.0	.43	31.9	.14	.30	1.0	.30	6.4	.02
Fertilize:										
3-row.....	.25	1.0	.25	8.0	.02	.24	1.0	.24	34.4	.08
4-row.....	.24	1.3	.31	67.4	.21	.23	1.0	.23	65.6	.15
Harrow:										
3-row.....	.04	1.0	.04	21.3	.01	---	---	---	---	---
4-row.....	.04	1.0	.04	46.7	.02	.04	1.0	.04	84.4	.03
Plant:										
2-row.....	---	---	---	---	---	.70	1.0	.70	27.5	.19
4-row.....	.33	1.0	.33	100.0	.33	.29	1.0	.29	72.5	.21
Replant, 4-row.....	.33	1.0	.33	8.2	.03	---	---	---	---	---
Cultivate:										
2-row.....	---	---	---	---	---	4.00	1.0	4.00	13.8	.55
4-row.....	.15	2.0	.30	91.8	.28	.14	2.0	.28	72.4	.20
All operations...	---	---	---	---	1.95	---	---	---	---	2.19

<sup>1</sup> Does not include custom-hired operations.<sup>2</sup> See Table 14.

TABLE 18.--Oat production: Preharvest equipment costs, per acre, by size of farm, Delta area, Mississippi, 1957<sup>1</sup>

Operation and size of equipment	Less than 60 acres of cropland					60 to 399 acres of cropland				
	Cost per acre once over <sup>2</sup>	Times over	Cost per acre, all times over	Percentage of oat acreage equipment was used on	Cost per acre, all land in oats	Cost per acre once over <sup>2</sup>	Times over	Cost per acre, all times over	Percentage of oat acreage equipment was used on	Cost per acre, all land in oats
	<u>Dollars</u>	<u>Number</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Number</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>
Disk:										
2-row.....	1.05	2.1	2.20	100.0	2.20	0.41	2.2	0.90	94.5	0.85
3-row.....	---	---	---	---	---	.26	2.0	.52	5.5	.03
Harrow:										
2-row.....	.13	1.3	.17	29.7	.05	.07	1.2	.08	10.2	.01
4-row.....	.27	1.0	.27	7.2	.02	.06	1.1	.07	78.1	.05
Drill:										
2-row.....	1.65	1.0	1.65	50.0	.83	.90	1.0	.90	9.6	.09
3-row.....	1.76	1.0	1.76	44.9	.79	1.27	1.0	1.27	48.4	.61
4-row.....	35.24	1.0	35.24	5.1	1.80	.68	1.0	.68	42.0	.29
Cultipack, 2-row....	1.12	1.0	1.12	12.3	.14	1.55	1.0	1.55	1.9	.03
Fertilize:										
2-row.....	.14	1.0	.14	41.3	.06	.17	1.0	.17	16.1	.03
3-row.....	---	---	---	---	---	.38	1.0	.38	12.6	.05
4-row.....	1.39	1.0	1.39	14.5	.20	.40	1.0	.40	48.8	.20
Poison, 6-row.....	.33	1.0	.33	4.6	.02	---	---	---	---	---
All operations...	---	---	---	---	6.11	---	---	---	---	2.24
	400 to 999 acres					1,000 acres or more				
Disk:										
2-row.....	.28	2.1	.59	50.7	.30	.30	1.9	.57	69.4	.40
3-row.....	.25	2.7	.68	42.7	.29	.23	1.4	.32	30.6	.10
4-row.....	.30	1.9	.57	6.6	.04	---	---	---	---	---
Harrow:										
2-row.....	.04	1.4	.06	9.4	.01	---	---	---	---	---
3-row.....	.04	1.0	.04	12.2	.01	---	---	---	---	---
4-row.....	.04	1.0	.04	71.3	.03	.04	1.1	.04	81.7	.03
Drill:										
2-row.....	.36	1.0	.36	.7	( <sup>3</sup> )	---	---	---	---	---
3-row.....	.37	1.0	.37	53.2	.20	.31	1.0	.31	48.9	.15
4-row.....	.26	1.0	.26	46.1	.12	.24	1.0	.24	51.1	.12
Cultipack:										
3-row.....	1.82	1.0	1.82	.7	.01	---	---	---	---	---
4-row.....	---	---	---	---	---	.85	1.0	.85	41.7	.35
Fertilize:										
3-row.....	.25	1.0	.25	38.9	.10	.24	1.0	.24	19.6	.05
4-row.....	.24	1.0	.24	11.4	.03	.23	1.0	.23	80.4	.18
All operations...	---	----	---	---	1.14	---	---	---	---	1.38

<sup>1</sup> Does not include custom-hired operations.<sup>2</sup> See table 14.<sup>3</sup> Less than one-half cent.

TABLE 19.--Wheat production: Preharvest equipment costs per acre, by size of farm, Delta area, Mississippi, 1957<sup>1</sup>

Operation and size of equipment	Less than 60 acres of cropland					60 to 399 acres of cropland				
	Cost per acre once over <sup>2</sup>	Times over	Cost per acre, all times over	Percentage of wheat acreage equipment was used on	Cost per acre, all land in wheat	Cost per acre once over <sup>2</sup>	Times over	Cost per acre, all times over	Percentage of wheat acreage equipment was used on	Cost per acre, all land in wheat
	Dollars	Number	Dollars	Percent	Dollars	Dollars	Number	Dollars	Percent	Dollars
Disk, 2-row.....	1.05	2.4	2.52	100.0	2.52	0.41	2.5	1.02	100.0	1.02
Harrow:										
2-row.....	.13	1.4	.18	25.6	.05	.07	1.0	.07	12.6	.01
4-row.....	.27	1.0	.27	17.4	.05	.06	1.1	.07	82.6	.06
Drill:										
2-row.....	---	---	---	---	---	.90	1.0	.90	15.6	.14
3-row.....	1.76	1.0	1.76	100.0	1.76	1.27	1.0	1.27	55.6	.71
4-row.....	---	---	---	---	---	.68	1.0	.68	28.8	.20
Cultipack, 2-row....	1.12	1.0	1.12	8.1	.09	---	---	---	---	---
Fertilize:										
2-row.....	.14	1.0	.14	30.2	.04	.17	1.0	.17	6.8	.01
3-row.....	1.90	1.0	1.90	4.6	.09	.38	1.0	.38	7.0	.03
4-row.....	---	---	---	---	---	.40	1.0	.40	24.6	.10
Poison, 4-row.....	.53	1.0	.53	5.8	.03	---	---	---	---	---
All operations..	---	---	---	---	4.63	---	---	---	---	2.28
	400 to 999 acres					1,000 acres or more				
Disk:										
2-row.....	.28	1.8	.50	6.70	.34	.30	1.4	.42	20.6	.09
3-row.....	.25	2.7	.68	8.9	.06	.23	1.9	.44	37.7	.17
4-row.....	.30	1.4	.42	24.1	.10	.25	2.7	.68	41.7	.28
Harrow:										
3-row.....	.04	1.0	.04	6.7	( <sup>3</sup> )	---	---	---	---	---
4-row.....	.05	1.0	.04	86.6	.03	.04	1.8	.07	91.5	.06
Drill:										
2-row.....	.36	1.0	.36	21.1	.08	---	---	---	---	---
3-row.....	.37	1.0	.37	28.7	.11	.31	1.0	.31	46.7	.14
4-row.....	.26	1.0	.26	50.2	.13	.24	1.0	.24	53.3	.13
Cultipack, 3-row....	1.82	1.0	1.82	6.7	.12	---	---	---	---	---
Fertilize:										
2-row.....	.10	1.0	.10	6.7	.01	---	---	---	---	---
3-row.....	.25	1.0	.25	32.6	.08	.24	1.0	.24	20.6	.05
4-row.....	.24	1.0	.24	33.4	.08	.23	1.0	.23	43.5	.10
Poison, 4-row.....	---	---	---	---	---	.10	1.0	.10	31.4	.03
All operations..	---	---	---	---	1.14	---	---	---	---	1.05

<sup>1</sup> Does not include custom-hired operations.<sup>2</sup> See table 14.<sup>3</sup> Less than one-half cent.

TABLE 20.--Cotton production, preharvest operations: Power costs per acre, by size of farm and equipment, Delta area, Mississippi, 1957<sup>1</sup>

Size of farm, operation, and size of equipment	Hours per acre once over	Times over	Hours per acre, all times over	Power costs-		Percentage of cotton acreage equipment was used on	Power cost per acre, all land in cotton
				Per hour	Per acre		
LESS THAN 60 ACRES OF CROPLAND							
	<u>Hours</u>	<u>Number</u>	<u>Hours</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>
Cut stalks:							
1-row <sup>2</sup> .....	2.8	1.0	2.8	0.30	0.84	5.3	0.04
2-row.....	.4	1.1	.4	1.51	.60	59.0	.35
Disk: 2-row.....	.6	1.7	1.0	1.51	1.51	72.6	1.10
Bed:							
1-row.....	1.1	1.8	2.0	1.51	3.02	4.4	.13
2-row.....	.8	1.4	1.1	1.51	1.66	81.7	1.36
3-row.....	.5	1.6	.8	1.51	1.21	4.1	.05
Fertilize:							
2-row.....	.6	1.2	.7	1.51	1.06	78.8	.84
3-row.....	.3	1.1	.3	1.51	.45	6.1	.03
4-row.....	.2	1.0	.2	1.51	.30	3.4	.01
Harrow:							
2-row.....	.4	1.3	.5	1.51	.76	69.4	.53
3-row.....	.3	1.0	.3	1.51	.45	3.9	.02
4-row.....	.25	1.7	.4	1.51	.60	17.2	.10
Plant:							
1-row <sup>2</sup> .....	1.7	1.0	1.7	.30	.51	4.6	.02
2-row.....	.6	1.0	.6	1.51	.91	92.0	.84
Replant: 2-row.....	.6	1.3	.8	1.51	1.21	10.4	.13
Cultivate:							
1-row <sup>2</sup> .....	1.7	7.4	12.6	.30	3.78	5.6	.21
2-row.....	.6	7.9	4.7	1.51	7.10	90.0	6.39
Poison:							
2-row.....	.8	4.1	3.3	1.51	4.98	2.6	.13
4-row.....	.4	6.0	2.4	1.51	3.62	5.5	.20
6-row.....	.3	6.0	1.8	1.51	2.72	18.2	.50
8-row.....	.2	8.0	1.6	1.51	2.42	5.7	.14
All operations.....	---	---	---	---	---	---	13.12
60 TO 399 ACRES							
Cut stalks: 2-row.....	.4	1.0	.4	1.32	.53	89.7	.48
Disk:							
2-row.....	.6	1.9	1.1	1.32	1.45	93.9	1.36
3-row.....	.45	1.7	.8	1.75	1.40	13.9	.19
4-row.....	.3	1.4	.4	1.75	.70	9.4	.07
Bed:							
2-row.....	.8	1.4	1.1	1.32	1.45	41.4	.60
3-row.....	.5	1.4	.7	1.75	1.22	50.5	.62
Fertilize:							
2-row.....	.6	1.0	.6	1.32	.79	33.2	.26
3-row.....	.3	1.3	.39	1.75	.68	13.4	.09
4-row.....	.2	1.1	.22	1.75	.38	53.0	.20
Harrow:							
2-row.....	.4	1.6	.6	1.32	.79	18.4	.15
3-row.....	.3	1.0	.3	1.75	.52	2.2	.01
4-row.....	.25	1.2	.3	1.75	.52	66.9	.35
Plant:							
1-row <sup>2</sup> .....	1.7	1.0	1.7	.30	.51	1.1	.01
2-row.....	.6	1.0	.6	1.32	.79	40.6	.32
4-row.....	.3	1.0	.3	1.75	.52	58.3	.30
Replant:							
2-row.....	.6	1.0	.6	1.32	.79	8.8	.07
4-row.....	.3	1.0	.3	1.75	.52	12.3	.06
Cultivate:							
2-row.....	.6	7.8	4.7	1.32	6.20	47.3	2.93
4-row.....	.3	8.5	2.6	1.75	4.55	52.7	2.40
Poison:							
4-row.....	.4	7.4	3.0	1.46	4.38	20.8	.91
6-row.....	.3	6.7	2.0	1.46	2.92	28.2	.82
8-row.....	.2	8.2	1.6	1.46	2.34	5.5	.13

See footnote at end of table.

-Continued

TABLE 20.--Cotton production, preharvest operations: Power costs per acre, by size of farm and equipment, Delta area, Mississippi, 1957<sup>1</sup>--Continued

Size of farm, operation, and size of equipment	Hours per acre once over	Times over	Hours per acre, all times over	Power costs--		Percentage of cotton acreage equipment was used on	Power cost per acre, all land in cotton
				Per hour	Per acre		
60 TO 399 ACRES--Con.							
Plow:	<u>Hours</u>	<u>Number</u>	<u>Hours</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>
2-bottom.....	1.7	1.0	1.7	1.32	2.24	3.4	0.08
3-bottom.....	1.3	1.0	1.3	1.75	2.28	11.3	.26
4-bottom.....	.8	1.0	.8	1.75	1.40	1.5	.02
Hoe, rotary, 4-row.....	.2	3.0	.6	1.75	1.05	3.3	.03
All operations.....	---	---	---	---	---	---	12.72
400 TO 999 ACRES							
Cut stalks:							
2-row.....	.4	1.1	.4	1.08	.43	86.6	.37
4-row.....	.2	1.0	.2	1.37	.27	8.9	.02
Disk:							
2-row.....	.6	1.7	1.0	1.08	1.08	54.9	.59
3-row.....	.45	1.4	.6	1.37	.82	39.0	.32
4-row.....	.3	1.4	.4	1.37	.55	18.1	.10
Bed:							
2-row.....	.8	1.4	1.1	1.08	1.19	6.0	.07
3-row.....	.5	1.3	.6	1.37	.82	69.9	.57
4-row.....	.3	1.6	.5	1.37	.68	8.0	.05
Fertilize:							
2-row.....	.6	1.0	.6	1.08	.65	3.3	.02
3-row.....	.3	1.2	.4	1.37	.55	24.4	.13
4-row.....	.2	1.5	.3	1.37	.41	72.3	.30
Harrow:							
2-row.....	.4	1.5	.6	1.08	.65	5.5	.04
3-row.....	.3	1.0	.3	1.37	.41	6.0	.02
4-row.....	.25	1.4	.4	1.37	.55	71.7	.39
Plant, 4-row.....	.3	1.0	.3	1.37	.41	100.0	.41
Replant, 4-row.....	.3	1.1	.3	1.37	.41	17.5	.07
Cultivate:							
2-row.....	.6	10.2	6.1	1.08	6.59	4.2	.28
4-row.....	.3	8.8	2.6	1.37	3.56	95.8	3.41
Flame cultivate, 4-row.....	.3	2.2	.7	1.37	.96	7.6	.07
Hoe, rotary, 4-row.....	.2	1.0	.2	1.37	.27	5.0	.01
Poison:							
4-row.....	.4	6.2	2.5	1.27	3.18	40.2	1.28
6-row.....	.3	7.1	2.1	1.27	2.67	11.9	.32
8-row.....	.2	11.8	2.4	1.27	3.05	50.1	1.53
Plow:							
2-bottom.....	1.7	1.0	1.7	1.08	1.84	1.0	.02
3-bottom.....	1.3	1.0	1.3	1.37	1.78	6.6	.12
All operations.....	---	---	---	---	---	---	10.51
1,000 ACRES OR MORE							
Cut stalks, 2-row.....	.4	1.1	.4	1.12	.45	100.0	.45
Disk:							
2-row.....	.6	1.8	1.1	1.12	1.23	23.6	.29
3-row.....	.45	1.4	.6	1.32	.79	31.8	.25
4-row.....	.3	1.2	.4	1.32	.53	35.7	.19
Bed:							
2-row.....	.8	1.8	1.4	1.12	1.57	3.3	.05
3-row.....	.5	1.4	.7	1.32	.92	60.8	.56
4-row.....	.3	2.0	.6	1.32	.79	9.7	.08
Fertilize:							
2-row.....	.6	1.0	.6	1.12	.67	23.5	.16
3-row.....	.3	1.0	.3	1.32	.40	20.7	.08
4-row.....	.2	1.4	.3	1.32	.40	64.7	.26
Harrow, 4-row.....	.25	1.6	.4	1.32	.53	69.9	.37
Plant, 4-row.....	.3	1.0	.3	1.32	.40	100.0	.40
Replant, 4-row.....	.3	1.0	.3	1.32	.40	8.5	.03

See footnote at end of table.

-Continued

TABLE 20.--Cotton production, preharvest operations: Power costs per acre, by size of farm and equipment, Delta area, Mississippi, 1957<sup>1</sup>--Continued

Size of farm, operation, and size of equipment	Hours per acre once over	Times over	Hours per acre, all times over	Power costs -		Percentage of cotton acreage equipment was used on	Power cost per acre, all land in cotton
				Per hour	Per acre		
1,000 ACRES OR MORE--Continued	<u>Hours</u>	<u>Number</u>	<u>Hours</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>
Cultivate, 4-row.....	0.3	9.5	2.8	1.32	3.70	100.0	3.70
Flame cultivate, 4-row.	.3	2.5	.8	1.32	1.06	18.4	.20
Poison:							
4-row.....	.4	5.8	2.3	1.27	2.92	72.7	2.12
8-row.....	.2	7.6	1.5	1.27	1.90	60.1	1.14
Plow:							
2-bottom.....	1.7	1.0	1.7	1.12	1.90	2.7	.05
3-bottom.....	1.3	1.0	1.3	1.32	1.72	13.2	.23
Total.....	---	---	---	---	---	---	10.61

<sup>1</sup> Power costs include the costs of operating tractors or the use of mules with the specified items of equipment.

<sup>2</sup> Mules used as a source of power.

TABLE 21.--Soybean production, preharvest operations: Power costs per acre, by size of farm and equipment, Delta area, Mississippi, 1957<sup>1</sup>

Size of farm, operation, and size of equipment	Hours per acre once over	Times over	Hours per acre, all times over	Power costs--		Percentage of soybean acreage equipment was used on	Power cost per acre, all land in soybeans
				Per hour	Per acre		
LESS THAN 60 ACRES	<u>Hours</u>	<u>Number</u>	<u>Hours</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>
Cut stalks, 2-row.....	0.4	1.0	0.4	1.51	0.60	3.2	0.02
Disk, 2-row.....	.6	1.7	1.0	1.51	1.51	82.1	1.24
Bed:							
1-row.....	1.1	1.2	1.3	1.51	1.96	7.3	.14
2-row.....	.8	1.4	1.1	1.51	1.66	59.3	.98
3-row.....	.5	1.5	.8	1.51	1.21	5.5	.07
Harrow:							
2-row.....	.4	1.4	.6	1.51	.91	53.2	.48
4-row.....	.25	1.2	.3	1.51	.45	11.4	.05
Plant:							
1-row <sup>2</sup> .....	1.7	1.0	1.7	.30	.51	5.9	.03
2-row.....	.6	1.0	.6	1.51	.91	80.6	.73
Replant:							
1-row <sup>2</sup> .....	1.7	1.0	1.7	.30	.51	2.1	.01
2-row.....	.6	1.0	.6	1.51	.91	.9	.01
Cultivate:							
1-row <sup>2</sup> .....	1.0	2.2	2.2	.30	.66	7.3	.05
2-row.....	.6	2.9	1.7	1.51	2.57	66.8	1.72
All operations....	---	---	---	---	---	---	5.53
60 to 399 ACRES							
Cut stalks: 2-row.....	.4	1.0	.4	1.32	.53	3.2	.02
Disk:							
2-row.....	.6	2.2	1.3	1.32	1.72	85.7	1.47
3-row.....	.45	3.0	1.4	1.75	2.45	5.6	.14
4-row.....	.3	1.0	.3	1.75	.52	2.0	.01
Bed:							
2-row.....	.8	1.2	1.0	1.32	1.32	47.2	.62
3-row.....	.5	1.3	.6	1.75	1.05	33.4	.35
Harrow:							
2-row.....	.4	2.1	.8	1.32	1.06	13.0	.14
4-row.....	.25	1.5	.4	1.75	.70	83.6	.59
Plant:							
1-row <sup>2</sup> .....	1.7	1.0	1.7	.30	.51	1.4	.01
2-row.....	.6	1.0	.6	1.32	.79	29.5	.23
4-row.....	.3	1.0	.3	1.75	.52	69.1	.36
Replant:							
2-row.....	.6	1.0	.6	1.32	.79	2.0	.02
Cultivate:							
2-row.....	.6	3.3	2.0	1.32	2.64	33.6	.89
4-row.....	.3	3.9	1.2	1.75	2.10	59.9	1.26
All operations....	---	---	---	---	---	---	6.11
400 to 999 ACRES							
Cut stalks, 2-row.....	.4	1.0	.4	1.08	.43	7.2	.03
Disk:							
2-row.....	.6	2.3	1.4	1.08	1.51	58.4	.88
3-row.....	.45	2.3	1.0	1.37	1.37	21.2	.29
4-row.....	.3	1.8	.5	1.37	.68	15.1	.10
Bed:							
2-row.....	.8	2.0	1.6	1.08	1.73	2.1	.04
3-row.....	.5	1.1	.6	1.37	.82	31.6	.26
4-row.....	.3	1.0	.3	1.37	.41	11.6	.05
Harrow, 4-row.....	.25	1.4	.4	1.37	.55	66.8	.37
Plant:							
2-row.....	.6	1.0	.6	1.08	.65	2.1	.01
4-row.....	.3	1.0	.3	1.37	.41	97.9	.40

-Continued

TABLE 21.--Soybean production, preharvest operations: Power costs per acre, by size of farm and equipment, Delta area, Mississippi, 1957<sup>1</sup>--Continued

Size of farm, operation, and size of equipment	Hours per acre once over	Times over	Hours per acre, all times over	Power costs -		Percentage of soybean acreage equipment was used on	Power cost per acre, all land in soybeans
				Per hour	Per acre		
400 TO 999 ACRES--Continued	<u>Hours</u>	<u>Number</u>	<u>Hours</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>
Replant, 4-row.....	0.3	1.0	0.3	1.37	0.41	4.4	0.02
Cultivate:							
2-row.....	.6	4.0	2.4	1.08	2.59	4.2	.11
4-row.....	.3	3.0	.9	1.37	1.23	85.3	1.05
All operations.....	---	---	---	---	---	---	3.61
1,000 ACRES OR MORE							
Disk:							
2-row.....	.6	1.6	1.0	1.12	1.12	34.1	.38
3-row.....	.45	2.3	1.0	1.32	1.32	48.4	.64
4-row.....	.3	1.3	.4	1.32	.53	17.5	.09
Bed:							
3-row.....	.5	1.3	.6	1.32	.79	66.5	.53
4-row.....	.3	1.0	.3	1.32	.40	13.5	.05
Harrow, 4-row.....	.25	1.3	.3	1.32	.40	71.9	.29
Plant, 4-row.....	.3	1.0	.3	1.32	.40	100.0	.40
Cultivate, 4-row.....	.3	2.9	.9	1.32	1.19	100.0	1.19
All operations.....	---	---	---	---	---	---	3.57

<sup>1</sup> Power costs include the costs of operating tractors or the use of mules with the specified items of equipment.

<sup>2</sup> Mules used as source of power.

TABLE 22.--Corn production, preharvest operations: Power costs per acre, by size of farm and equipment, Delta area, Mississippi, 1957<sup>1</sup>

Size of farm, operation, and size of equipment	Hours per acre once over	Times over	Hours per acre, all times over	Power costs -		Percentage of corn acreage equipment was used on	Power cost per acre, all land in corn
				Per hour	Per acre		
LESS THAN 60 ACRES OF CROPLAND	<u>Hours</u>	<u>Number</u>	<u>Hours</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>
Cut stalks:							
1-row <sup>2</sup> .....	2.8	1.0	2.8	0.30	0.84	3.9	0.03
2-row.....	.4	1.2	.5	1.51	.76	11.2	.09
Disk, 2-row.....	.6	1.9	1.1	1.51	1.66	86.2	1.43
Bed:							
1-row.....	1.1	1.7	1.9	1.51	2.87	5.5	.16
2-row.....	.8	1.4	1.1	1.51	1.66	82.6	1.37
3-row.....	.5	2.0	1.0	1.51	1.51	2.8	.04
Fertilize:							
2-row.....	.6	1.0	.6	1.51	.91	52.8	.48
3-row.....	.3	1.0	.3	1.51	.45	.8	( <sup>3</sup> )
4-row.....	.2	1.0	.2	1.51	.30	2.8	.01
Harrow:							
2-row.....	.4	1.3	.5	1.51	.76	74.8	.57
4-row.....	.25	1.2	.3	1.51	.45	12.2	.05
Plant:							
1-row <sup>2</sup> .....	1.7	1.0	1.7	.30	.51	5.1	.03
2-row.....	.6	1.0	.6	1.51	.91	94.9	.86
Replant:							
1-row <sup>2</sup> .....	1.7	1.0	1.7	.30	.51	1.6	.01
2-row.....	.6	1.1	.7	1.51	1.06	24.3	.26
Cultivate:							
1-row <sup>2</sup> .....	1.0	1.9	1.9	.30	.57	5.1	.03
2-row.....	.6	3.6	2.2	1.51	3.32	86.0	2.86
Poison:							
6-row.....	.3	2.0	.6	1.51	.91	1.2	.01
8-row.....	.2	1.0	.2	1.51	.30	2.8	.01
All operations.....	---	---	---	---	---	---	8.30
60 TO 399 ACRES							
Cut stalks; 2-row.....	0.4	1.0	0.4	1.32	0.53	9.2	.05
Disk:							
2-row.....	.6	2.0	1.2	1.32	1.58	96.0	1.52
3-row.....	.45	2.0	.9	1.75	1.58	4.0	.06
Bed:							
2-row.....	.8	1.2	1.0	1.32	1.32	36.3	.48
3-row.....	.5	1.0	.5	1.75	.88	42.5	.37
Fertilize:							
2-row.....	.6	1.0	.6	1.32	.79	54.0	.43
3-row.....	.3	1.0	.3	1.75	.52	8.6	.04
4-row.....	.2	1.0	.2	1.75	.35	22.8	.08
Harrow:							
2-row.....	.4	1.4	.6	1.32	.79	20.1	.16
4-row.....	.25	1.3	.3	1.75	.52	72.2	.38
Plant:							
2-row.....	.6	1.0	.6	1.32	.79	66.4	.52
4-row.....	.3	1.0	.3	1.75	.52	33.6	.17
Replant:							
2-row.....	.6	1.0	.6	1.32	.79	2.9	.02
4-row.....	.3	1.0	.3	1.75	.52	4.3	.02
Cultivate:							
2-row.....	.6	3.8	2.3	1.32	3.04	63.2	1.92
4-row.....	.3	2.8	.8	1.75	1.40	33.9	.47
All operations.....	---	---	---	---	---	---	6.69
400 TO 999 ACRES							
Cut stalks, 2-row.....	.4	1.0	.4	1.08	.43	81.1	.35
Disk:							
2-row.....	.6	1.7	1.0	1.08	1.08	88.5	.96
3-row.....	.45	1.0	.45	1.37	.62	11.5	.07
Bed:							
2-row.....	.8	1.0	.8	1.08	.86	3.3	.03
3-row.....	.5	1.2	.6	1.37	.82	43.4	.36
4-row.....	.3	1.0	.3	1.37	.41	31.9	.13

See footnotes at end of table.

TABLE 22.--Corn production, preharvest operations: Power costs per acre, by size of farm and equipment, Delta area, Mississippi, 1957<sup>1</sup>--Continued

Size of farm, operation, and size of equipment	Hours per acre once over	Times over	Hours per acre, all times over	Power costs -		Percentage of corn acreage equipment was used on	Power cost per acre, all land in corn
				Per hour	Per acre		
400 TO 999 ACRES--Con.							
	<u>Hours</u>	<u>Number</u>	<u>Hours</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>
Fertilize:							
3-row.....	0.3	1.0	0.3	1.37	0.41	8.0	0.03
4-row.....	.2	1.3	.3	1.37	.41	67.4	.28
Harrow:							
3-row.....	.3	1.0	.3	1.37	.41	21.3	.09
4-row.....	.25	1.0	.25	1.37	.34	46.7	.16
Plant, 4-row.....	.3	1.0	.3	1.37	.41	100.0	.41
Replant, 4-row.....	.3	1.0	.3	1.37	.41	8.2	.03
Cultivate, 4-row.....	.3	2.0	.6	1.37	.82	91.8	.75
All operations.....	---	---	---	---	---	---	3.65
1,000 ACRES OR MORE							
Cut stalks, 2-row.....	.4	1.0	.4	1.12	.45	4.0	.02
Disk:							
2-row.....	.6	1.2	.7	1.12	.78	22.5	.18
3-row.....	.45	1.5	.7	1.32	.92	31.6	.29
4-row.....	.3	2.0	.6	1.32	.79	45.9	.36
Bed:							
3-row.....	.5	1.2	.6	1.32	.79	66.0	.52
4-row.....	.3	1.0	.3	1.32	.40	6.4	.03
Fertilize:							
3-row.....	.3	1.0	.3	1.32	.40	34.4	.14
4-row.....	.2	1.0	.2	1.32	.26	65.6	.17
Harrow:							
4-row.....	.25	1.0	.25	1.32	.33	84.4	.28
Plant:							
2-row.....	.6	1.0	.6	1.12	.67	27.5	.18
4-row.....	.3	1.0	.3	1.32	.40	72.5	.29
Cultivate:							
2-row.....	.6	1.0	.6	1.12	.67	13.8	.09
4-row.....	.3	2.0	.6	1.32	.79	72.4	.57
All operations.....	---	---	---	---	---	---	3.12

<sup>1</sup> Power costs include the costs of operating tractors or the use of mules with the specified items of equipment.

<sup>2</sup> Mules used as a source of power.

<sup>3</sup> Less than one-half cent.

TABLE 23.--Oat production, preharvest operations: Power costs per acre, by size of farm and equipment, Delta area, Mississippi, 1957<sup>1</sup>

Size of farm, operation, and size of equipment	Hours per acre once over	Times over	Hours per acre, all times over	Power costs -		Percentage of oat acreage equipment was used on	Power cost per acre, all land in oats
				Per hour	Per acre		
LESS THAN 60 ACRES OF CROPLAND	<u>Hours</u>	<u>Number</u>	<u>Hours</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>
Disk, 2-row.....	0.6	2.1	1.3	1.51	1.96	100.0	1.96
Harrow:							
2-row.....	.4	1.3	.5	1.51	.76	29.7	.23
4-row.....	.25	1.0	.25	1.51	.38	7.2	.03
Drill:							
2-row.....	.6	1.0	.6	1.51	.91	50.0	.46
3-row.....	.4	1.0	.4	1.51	.60	44.9	.27
4-row.....	.3	1.0	.3	1.51	.45	5.1	.02
Cultipack, 2-row.....	.5	1.0	.5	1.51	.76	12.3	.09
Fertilize:							
2-row.....	.6	1.0	.6	1.51	.91	41.3	.38
4-row.....	.2	1.0	.2	1.51	.30	14.5	.04
Poison, 6-row.....	.3	1.0	.3	1.51	.45	4.6	.02
All operations.....	---	---	---	---	---	---	3.50
60 TO 399 ACRES							
Disk:							
2-row.....	.6	2.2	1.3	1.32	1.72	94.5	1.63
3-row.....	.45	2.0	.9	1.75	1.58	5.5	.09
Harrow:							
2-row.....	.4	1.2	.5	1.32	.66	10.2	.07
4-row.....	.25	1.1	.3	1.75	.52	78.1	.41
Drill:							
2-row.....	.6	1.0	.6	1.32	.79	9.6	.08
3-row.....	.4	1.0	.4	1.75	.70	48.4	.34
4-row.....	.3	1.0	.3	1.75	.52	42.0	.22
Cultipack, 2-row.....	.5	1.0	.5	1.32	.66	1.9	.01
Fertilize:							
2-row.....	.6	1.0	.6	1.32	.79	16.1	.13
3-row.....	.3	1.0	.3	1.75	.52	12.6	.07
4-row.....	.2	1.0	.2	1.75	.35	48.8	.17
All operations.....	---	---	---	---	---	---	3.22
400 TO 999 ACRES							
Disk:							
2-row.....	.6	2.1	1.3	1.08	1.40	50.7	.71
3-row.....	.45	2.7	1.2	1.37	1.64	42.7	.70
4-row.....	.3	1.9	.6	1.37	.82	6.6	.05
Harrow:							
2-row.....	.4	1.4	.6	1.08	.65	9.4	.06
3-row.....	.3	1.0	.3	1.37	.41	12.2	.05
4-row.....	.25	1.0	.25	1.37	.34	71.3	.24
Drill:							
2-row.....	.6	1.0	.6	1.08	.65	.7	( <sup>2</sup> )
3-row.....	.4	1.0	.4	1.37	.55	53.2	.29
4-row.....	.3	1.0	.3	1.37	.41	46.1	.19
Cultipack, 3-row.....	.4	1.0	.4	1.37	.55	.7	( <sup>2</sup> )
Fertilize:							
3-row.....	.3	1.0	.3	1.37	.41	38.9	.16
4-row.....	.2	1.0	.2	1.37	.27	11.4	.03
All operations.....	---	---	---	---	---	---	2.48
1,000 ACRES OR MORE							
Disk:							
2-row.....	.6	1.9	1.1	1.12	1.23	69.4	.85
3-row.....	.4	1.4	.6	1.32	.79	30.6	.24
Harrow, 4-row.....	.25	1.1	.3	1.32	.40	81.7	.33

See footnotes at end of table.

-Continued

TABLE 23.--Oat production, preharvest operations: Power costs per acre, by size of farm and equipment, Delta area, Mississippi, 1957<sup>1</sup>--Continued

Size of farm, operation, and size of equipment	Hours per acre once over	Times over	Hours per acre, all times over	Power costs -		Percentage of oat acreage equipment was used on	Power cost per acre, all land in oats
				Per hour	Per acre		
1,000 ACRES OR MORE--Continued							
Drill:	<u>Hours</u>	<u>Number</u>	<u>Hours</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>
3-row.....	0.4	1.0	0.4	1.32	0.53	48.9	0.26
4-row.....	.3	1.0	.3	1.32	.40	51.1	.20
Cultipack, 4-row.....	.25	1.0	.25	1.32	.33	41.7	.14
Fertilize:							
3-row.....	.3	1.0	.3	1.32	.40	19.6	.08
4-row.....	.2	1.0	.2	1.32	.26	80.4	.21
All operations.....	---	---	---	---	---	---	2.31

<sup>1</sup> Power costs include the costs of operating tractors or the use of mules with the specified items of equipment.  
<sup>2</sup> Less than one-half cent.

TABLE 24.--Wheat production, preharvest operations: Power costs per acre, by size of farm and equipment, Delta area, Mississippi, 1957<sup>1</sup>

Size of farm, operation, and size of equipment	Hours per acre once over	Times over	Hours per acre, all times over	Power costs -		Percentage of wheat acreage equipment was used on	Power cost per acre, all land in wheat
				Per hour	Per acre		
LESS THAN 60 ACRES OF CROPLAND							
	<u>Hours</u>	<u>Number</u>	<u>Hours</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>
Disk, 2-row.....	0.6	2.4	1.4	1.51	2.11	100.0	2.11
Harrow:							
2-row.....	.4	1.4	.6	1.51	.91	25.6	.23
4-row.....	.25	1.0	.25	1.51	.38	17.4	.07
Drill, 3-row.....	.4	1.0	.4	1.51	.60	100.0	.60
Cultipack, 2-row.....	.5	1.0	.5	1.51	.76	8.1	.06
Fertilizer:							
2-row.....	.6	1.0	.6	1.51	.91	30.2	.27
3-row.....	.3	1.0	.3	1.51	.45	4.6	.02
Poison, 4-row.....	.4	1.0	.4	1.51	.60	5.8	.03
All operations.....	---	---	---	---	---	---	3.39
60 TO 399 ACRES							
Disk, 2-row.....	.6	2.5	1.5	1.32	1.98	100.0	1.98
Harrow:							
2-row.....	.4	1.0	.4	1.32	.53	12.6	.07
4-row.....	.25	1.1	.3	1.75	.52	82.6	.43
Drill:							
2-row.....	.6	1.0	.6	1.32	.79	15.6	.12
3-row.....	.4	1.0	.4	1.75	.70	55.6	.39
4-row.....	.3	1.0	.3	1.75	.52	28.8	.15
Fertilize:							
2-row.....	.6	1.0	.6	1.32	.79	6.8	.05
3-row.....	.3	1.0	.3	1.75	.52	7.0	.04
4-row.....	.2	1.0	.2	1.75	.35	24.6	.09
All operations.....	---	---	---	---	---	---	3.32
400 TO 999 ACRES							
Disk:							
2-row.....	.6	1.8	1.1	1.08	1.19	67.0	.80
3-row.....	.45	2.7	1.2	1.37	1.64	8.9	.15
4-row.....	.3	1.4	.4	1.37	.55	24.1	.13
Harrow:							
3-row.....	.3	1.0	.3	1.37	.41	6.7	.03
4-row.....	.25	1.0	.25	1.37	.34	86.6	.29
Drill:							
2-row.....	.6	1.0	.6	1.08	.65	21.1	.14
3-row.....	.4	1.0	.4	1.37	.55	28.7	.16
4-row.....	.3	1.0	.3	1.37	.41	50.2	.21
Cultipack, 3-row.....	.4	1.0	.4	1.37	.55	6.7	.04
Fertilize:							
2-row.....	.6	1.0	.6	1.08	.65	6.7	.04
3-row.....	.3	1.0	.3	1.37	.41	32.6	.13
4-row.....	.2	1.0	.2	1.37	.27	33.4	.09
All operations.....	---	---	---	---	---	---	2.21
1,000 ACRES OR MORE							
Disk:							
2-row.....	.6	1.8	1.1	1.12	1.23	20.6	.25
3-row.....	.45	2.7	1.2	1.32	1.58	37.7	.60
4-row.....	.3	1.4	.4	1.32	.53	41.7	.22
Harrow, 4-row.....	.25	1.8	.4	1.32	.53	91.5	.48
Drill:							
3-row.....	.4	1.0	.4	1.32	.53	46.7	.25
4-row.....	.3	1.0	.3	1.32	.40	53.3	.21

See footnote at end of table.

-Continued

TABLE 24.--Wheat production, preharvest operations: Power costs per acre, by size of farm and equipment,  
Delta area, Mississippi, 1957<sup>1</sup>--Continued

Size of farm, operation, and size of equipment	Hours per acre once over	Times over	Hours per acre, all times over	Power costs -		Percentage of wheat acreage equipment was used on	Power cost per acre, all land in wheat
				Per hour	Per acre		
1,000 ACRES OR MORE--Con.							
Fertilize:	<u>Hours</u>	<u>Number</u>	<u>Hours</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>
3-row.....	0.3	1.0	0.3	1.32	0.40	20.6	0.08
4-row.....	.2	1.0	.2	1.32	.26	43.5	.11
Poison, 4-row.....	.4	1.0	.4	1.27	.51	31.4	.16
All operations.....	---	---	---	---	---	---	2.36

<sup>1</sup> Power costs include the costs of operating tractors or the use of mules with the specified items of equipment.

TABLE 25.--Cotton production, preharvest machine operations: Labor costs per acre, by size of farm and equipment, Delta area, Mississippi, 1957

Size of farm, operation, and size of equipment	Hours per acre, once over	Times over	Hours per acre, all times over	Labor cost per acre <sup>1</sup>	Percentage of cotton acreage equipment was used on	Labor cost per acre, all land in cotton
<b>LESS THAN 60 ACRES OF CROPLAND</b>						
	<u>Hours</u>	<u>Number</u>	<u>Hours</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>
Cut stalks:						
1-row <sup>2</sup> .....	1.4	1.0	1.4	0.64	5.3	0.03
2-row.....	.4	1.1	.4	.18	59.0	.11
Disk, 2-row.....	.6	1.7	1.0	.46	72.6	.33
Bed:						
1-row.....	1.1	1.8	2.0	.92	4.4	.04
2-row.....	.8	1.4	1.1	.51	81.7	.42
3-row.....	.5	1.6	.8	.37	4.1	.02
Fertilize:						
2-row.....	.6	1.2	.7	.32	78.8	.25
3-row.....	.3	1.1	.3	.14	6.1	.01
4-row.....	.2	1.0	.2	.09	3.4	( <sup>3</sup> )
Harrow:						
2-row.....	.4	1.3	.5	.23	69.4	.16
3-row.....	.3	1.0	.3	.14	3.9	.01
4-row.....	.25	1.7	.4	.18	17.2	.03
Plant:						
1-row <sup>2</sup> .....	1.7	1.0	1.7	.78	4.6	.04
2-row.....	.8	1.0	.8	.37	92.0	.34
Replant, 2-row.....	.8	1.3	1.0	.46	10.4	.05
Cultivate:						
1-row <sup>2</sup> .....	1.7	7.4	12.6	5.80	5.6	.32
2-row.....	.6	7.9	4.7	2.16	90.0	1.94
Poison:						
2-row.....	1.6	4.1	6.6	3.04	2.6	.08
4-row.....	.8	6.0	4.8	2.21	5.5	.12
6-row.....	.6	6.8	4.1	1.89	18.2	.34
8-row.....	.4	8.0	3.2	1.47	5.7	.08
All operations.....	---	---	---	---	---	4.72
<b>60 TO 399 ACRES</b>						
Cut stalks, 2-row.....	.4	1.0	.4	.18	89.7	.16
Disk:						
2-row.....	.6	1.9	1.1	.51	93.9	.48
3-row.....	.45	1.7	.8	.37	13.9	.05
4-row.....	.3	1.4	.4	.18	9.4	.02
Bed:						
2-row.....	.8	1.4	1.1	.51	41.4	.21
3-row.....	.5	1.4	.7	.32	50.5	.16
Fertilize:						
2-row.....	.6	1.0	.6	.28	33.2	.09
3-row.....	.3	1.3	.4	.18	13.4	.02
4-row.....	.2	1.1	.2	.09	53.0	.05
Harrow:						
2-row.....	.4	1.6	.6	.28	18.4	.05
3-row.....	.3	1.0	.3	.14	2.2	( <sup>3</sup> )
4-row.....	.25	1.2	.3	.14	66.9	.09
Plant:						
1-row <sup>2</sup> .....	1.7	1.0	1.7	.78	1.1	.01
2-row.....	.8	1.0	.8	.37	40.6	.15
4-row.....	.5	1.0	.5	.23	58.3	.13
Replant:						
2-row.....	.8	1.0	.8	.37	8.8	.03
4-row.....	.5	1.0	.5	.23	12.3	.03
Cultivate:						
2-row.....	.6	7.8	4.7	2.16	47.3	1.02
4-row.....	.3	8.5	2.6	1.20	52.7	.63
Poison:						
4-row.....	.8	7.4	5.9	2.71	20.8	.56
6-row.....	.6	6.7	4.0	1.84	28.2	.52
8-row.....	.4	8.2	3.3	1.52	5.5	.08

See footnotes at end of table.

-Continued

TABLE 25.--Cotton production, preharvest machine operations: Labor costs per acre, by size of farm and equipment, Delta area, Mississippi, 1957--Continued

Size of farm, operation, and size of equipment	Hours per acre, once over	Times over	Hours per acre, all times over	Labor cost per acre <sup>1</sup>	Percentage of cotton acreage equipment was used on	Labor cost per acre, all land in cotton
60 TO 399 ACRES--Con.						
	<u>Hours</u>	<u>Number</u>	<u>Hours</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>
Plow:						
2-bottom.....	1.7	1.0	1.7	0.78	3.4	0.03
3-bottom.....	1.3	1.0	1.3	.60	11.3	.07
4-bottom.....	.8	1.0	.8	.37	1.5	.01
Hoe, rotary, 4-row....	.2	3.0	.6	.28	3.3	.01
All operations....	---	---	---	---	---	4.66
400 TO 999 ACRES						
Cut stalks:						
2-row.....	.4	1.1	.4	.18	86.6	.16
4-row.....	.2	1.0	.2	.09	8.9	.01
Disk:						
2-row.....	.6	1.7	1.0	.46	54.9	.25
3-row.....	.45	1.4	.6	.28	39.0	.11
4-row.....	.3	1.4	.4	.18	18.1	.03
Bed:						
2-row.....	.8	1.4	1.1	.51	6.0	.03
3-row.....	.5	1.3	.6	.28	69.9	.20
4-row.....	.3	1.6	.5	.23	8.0	.02
Fertilize:						
2-row.....	.6	1.0	.6	.28	3.3	.01
3-row.....	.3	1.2	.4	.18	24.4	.04
4-row.....	.2	1.5	.3	.14	72.3	.10
Harrow:						
2-row.....	.4	1.5	.6	.28	5.5	.02
3-row.....	.3	1.0	.3	.14	6.0	.01
4-row.....	.25	1.4	.4	.18	71.7	.13
Plant, 4-row.....	.5	1.0	.5	.23	100.0	.23
Replant, 4-row.....	.5	1.1	.6	.28	17.5	.05
Cultivate:						
2-row.....	.6	10.2	6.1	2.81	4.2	.12
4-row.....	.3	8.8	2.6	1.20	95.8	1.15
Flame cultivate, 4-row	.3	2.2	.7	.32	7.6	.02
Hoe, rotary, 4-row....	.2	1.0	.2	.09	5.0	( <sup>3</sup> )
Poison:						
4-row.....	.8	6.2	5.0	2.30	40.2	.92
6-row.....	.6	7.1	4.3	1.98	11.9	.24
8-row.....	.4	11.8	4.7	2.16	50.1	1.08
Plow:						
2-bottom.....	1.7	1.0	1.7	.78	1.0	.01
3-bottom.....	1.3	1.0	1.3	.60	6.6	.04
All operations....	---	---	---	---	---	4.98
1,000 ACRES OR MORE						
Cut stalks, 2-row.....	.4	1.1	.4	.18	100.0	.18
Disk:						
2-row.....	.6	1.8	1.1	.51	23.6	.12
3-row.....	.45	1.4	.6	.28	31.8	.09
4-row.....	.3	1.2	.4	.18	35.7	.06
Bed:						
2-row.....	.8	1.8	1.4	.64	3.3	.02
3-row.....	.5	1.4	.7	.32	60.8	.19
4-row.....	.3	2.0	.6	.28	9.7	.03
Fertilize:						
2-row.....	.6	1.0	.6	.28	23.5	.07
3-row.....	.3	1.0	.3	.14	20.7	.03
4-row.....	.2	1.4	.3	.14	64.7	.09

See footnotes at end of table.

-Continued

TABLE 25.--Cotton production, preharvest machine operations: Labor costs per acre, by size of farm and equipment, Delta area, Mississippi, 1957--Continued

Size of farm, operation, and size of equipment	Hours per acre, once over	Times over	Hours per acre, all times over	Labor cost per acre <sup>1</sup>	Percentage of cotton acreage equipment was used on	Labor cost per acre, all land in cotton
1,000 ACRES OR MORE--Continued	<u>Hours</u>	<u>Number</u>	<u>Hours</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>
Harrow, 4-row.....	0.25	1.6	0.4	0.18	69.9	0.13
Plant, 4-row.....	.5	1.0	.5	.23	100.0	.23
Replant, 4-row.....	.5	1.0	.5	.23	8.5	.02
Cultivate, 4-row.....	.3	9.5	2.8	1.29	100.0	1.29
Flame cultivate, 4-row	.3	2.5	.8	.37	18.4	.07
Poison:						
4-row.....	.8	5.8	4.6	2.12	72.7	1.54
8-row.....	.4	7.6	3.0	1.38	60.1	.83
Plow:						
2-bottom.....	1.7	1.0	1.7	.78	2.7	.02
3-bottom.....	1.3	1.0	1.3	.60	13.2	.08
All of operations.	---	---	---	---	---	5.09

<sup>1</sup> With wage rate of \$0.46 per hour.

<sup>2</sup> Mules used as source of power.

<sup>3</sup> Less than one-half cent.

TABLE 26.--Soybean production, preharvest machine operations: Labor costs per acre, by size of farm and equipment, Delta area, Mississippi, 1957

Size of farm, operation, and size of equipment	Hours per acre, once over	Times over	Hours per acre, all times over	Labor cost per acre <sup>1</sup>	Percentage of soybean acreage equipment was used on	Labor cost per acre, all land in soybeans
LESS THAN 60 ACRES OF CROPLAND	<u>Hours</u>	<u>Number</u>	<u>Hours</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>
Cut stalks, 2-row.....	0.4	1.0	0.4	0.18	3.2	0.01
Disk, 2-row.....	.6	1.7	1.0	.46	82.1	.38
Bed:						
1-row.....	1.1	1.2	1.3	.60	7.3	.04
2-row.....	.8	1.4	1.1	.51	59.3	.30
3-row.....	.5	1.5	.8	.37	5.5	.02
Harrow:						
2-row.....	.4	1.4	.6	.28	53.2	.15
4-row.....	.25	1.2	.3	.14	11.4	.02
Plant:						
1-row <sup>2</sup> .....	1.7	1.0	1.7	.78	5.9	.05
2-row.....	.8	1.0	.8	.37	80.6	.30
Replant:						
1-row <sup>2</sup> .....	1.7	1.0	1.7	.78	2.1	.02
2-row.....	.8	1.0	.8	.37	.9	( <sup>3</sup> )
Cultivate:						
1-row <sup>2</sup> .....	1.0	2.2	2.2	1.01	7.3	.07
2-row.....	.6	2.9	1.7	.78	66.8	.52
All operations....	---	---	---	---	---	1.88
60 TO 399 ACRES						
Cut stalks, 2-row.....	.4	1.0	.4	.18	3.2	.01
Disk:						
2-row.....	.6	2.2	1.3	.60	85.7	.51
3-row.....	.45	3.0	1.4	.64	5.6	.04
4-row.....	.3	1.0	.3	.14	2.0	( <sup>3</sup> )
Bed:						
2-row.....	.8	1.2	1.0	.46	47.2	.22
3-row.....	.5	1.3	.6	.28	33.4	.09
Harrow:						
2-row.....	.4	2.1	.8	.37	13.0	.05
4-row.....	.25	1.5	.4	.18	83.6	.15
Plant:						
1-row <sup>2</sup> .....	1.7	1.0	1.7	.78	1.4	.01
2-row.....	.8	1.0	.8	.37	29.5	.11
4-row.....	.5	1.0	.5	.23	69.1	.16
Replant, 2-row.....	.8	1.0	.8	.37	2.0	.01
Cultivate:						
2-row.....	.6	3.3	2.0	.92	33.6	.31
4-row.....	.3	3.9	1.2	.55	59.9	.33
All operations....	---	---	---	---	---	2.00
400 TO 999 ACRES						
Cut stalks, 2-row.....	.4	1.0	.4	.18	7.2	.01
Disk:						
2-row.....	.6	2.3	1.4	.64	58.4	.37
3-row.....	.45	2.3	1.0	.46	21.2	.10
4-row.....	.3	1.8	.5	.23	15.1	.03
Bed:						
2-row.....	.8	2.0	1.6	.74	2.1	.02
3-row.....	.5	1.1	.6	.28	31.6	.09
4-row.....	.3	1.0	.3	.14	11.6	.02
Harrow, 4-row.....	.25	1.4	.4	.18	66.8	.12
Plant:						
2-row.....	.8	1.0	.8	.37	2.1	.01
4-row.....	.5	1.0	.5	.23	97.9	.23
Replant, 4-row.....	.5	1.0	.5	.23	4.4	.01
Cultivate:						
2-row.....	.6	4.0	2.4	1.10	4.2	.05
4-row.....	.3	3.0	.9	.41	85.3	.35
All operations....	---	---	---	---	---	1.41

See footnote at end of table.

-Continued

TABLE 26.--Soybean production, preharvest machine operations: Labor costs per acre, by size of farm and equipment, Delta area, Mississippi, 1957--Continued

Size of farm, operation, and size of equipment	Hours per acre, once over	Times over	Hours per acre, all times over	Labor cost per acre <sup>1</sup>	Percentage of soybean acreage equipment was used on	Labor cost per acre, all land in soybeans
1,000 ACRES OR MORE						
Disk:	<u>Hours</u>	<u>Number</u>	<u>Hours</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>
2-row.....	0.6	1.6	1.0	.46	34.1	0.16
3-row.....	.45	2.3	1.0	.46	48.4	.22
4-row.....	.3	1.3	.4	.18	17.5	.03
Bed:						
3-row.....	.5	1.3	.6	.28	66.5	.19
4-row.....	.3	1.0	.3	.14	13.5	.02
Harrow, 4-row.....	.25	1.3	.3	.14	71.9	.10
Plant, 4-row.....	.5	1.0	.5	.23	100.0	.23
Cultivate, 4-row.....	.3	2.9	.9	.41	100.0	.41
All operations.....	---	---	---	---	---	1.36

<sup>1</sup> With wage rate of \$0.46 per hour.

<sup>2</sup> Mules used as source of power.

<sup>3</sup> Less than one-half cent.

TABLE 27.--Corn production, preharvest machine operations: Labor costs per acre, by size of farm and equipment, Delta area, Mississippi, 1957

Size of farm, operation, and size of equipment	Hours per acre, once over	Times over	Hours per acre, all times over	Labor cost per acre <sup>1</sup>	Percentage of corn acreage equipment was used on	Labor cost per acre, all land in corn
<b>LESS THAN 60 ACRES OF CROPLAND</b>	<b>Hours</b>	<b>Number</b>	<b>Hours</b>	<b>Dollars</b>	<b>Percent</b>	<b>Dollars</b>
Cut stalks:						
1-row <sup>2</sup> .....	1.4	1.0	1.4	0.64	3.9	0.02
2-row.....	.4	1.2	.5	.23	11.2	.03
Disk, 2-row.....	.6	1.9	1.1	.51	86.2	.44
Bed:						
1-row.....	1.1	1.7	1.9	.87	5.5	.05
2-row.....	.8	1.4	1.1	.51	82.6	.42
3-row.....	.5	2.0	1.0	.46	2.8	.01
Fertilize:						
2-row.....	.6	1.0	.6	.28	52.8	.15
3-row.....	.3	1.0	.3	.14	.8	( <sup>3</sup> )
4-row.....	.2	1.0	.2	.09	2.8	( <sup>3</sup> )
Harrow:						
2-row.....	.4	1.3	.5	.23	74.8	.17
4-row.....	.25	1.2	.3	.14	12.2	.02
Plant:						
1-row <sup>2</sup> .....	1.7	1.0	1.7	.78	5.1	.04
2-row.....	.8	1.0	.8	.37	94.9	.35
Replant:						
1-row <sup>2</sup> .....	1.7	1.0	1.7	.78	1.6	.01
2-row.....	.8	1.1	.9	.41	24.3	.10
Cultivate:						
1-row.....	1.0	1.9	1.9	.87	5.1	.04
2-row.....	.6	3.6	2.2	1.01	86.0	.87
Poison:						
6-row.....	.6	2.0	1.2	.55	1.2	.01
8-row.....	.4	1.0	.4	.18	2.8	.01
All operations	---	---	---	---	---	2.74
<b>60 TO 399 ACRES</b>						
Cut stalks, 2-row.....	.4	1.0	.4	.18	9.2	.02
Disk:						
2-row.....	.6	2.0	1.2	.55	96.0	.53
3-row.....	.45	2.0	.9	.41	4.0	.02
Bed:						
2-row.....	.8	1.2	1.0	.46	36.3	.17
3-row.....	.5	1.0	.5	.23	42.5	.10
Fertilize:						
2-row.....	.6	1.0	.6	.28	54.0	.15
3-row.....	.3	1.0	.3	.14	8.6	.01
4-row.....	.2	1.0	.2	.09	22.8	.02
Harrow:						
2-row.....	.4	1.4	.6	.28	20.1	.06
4-row.....	.25	1.3	.3	.14	72.2	.10
Plant:						
2-row.....	.8	1.0	.8	.37	66.4	.25
4-row.....	.5	1.0	.5	.23	33.6	.08
Replant:						
2-row.....	.8	1.0	.8	.37	2.9	.01
4-row.....	.5	1.0	.5	.23	4.3	.01
Cultivate:						
2-row.....	.6	3.8	2.3	1.05	63.2	.66
4-row.....	.3	2.8	.8	.37	33.9	.13
All operations.....	---	---	---	---	---	2.32
<b>400 TO 999 ACRES</b>						
Cut stalks, 2-row.....	.4	1.0	.4	.18	81.1	.15
Disk:						
2-row.....	.6	1.7	1.0	.46	88.5	.41
3-row.....	.45	1.0	.4	.18	11.5	.02

See footnotes at end of table.

- Continued

TABLE 27.--Corn production, preharvest machine operations: Labor costs per acre, by size of farm and equipment, Delta area, Mississippi, 1957--Continued

Size of farm, operation, and size of equipment	Hours per acre, once over	Times over	Hours per acre, all times over	Labor cost per acre <sup>1</sup>	Percentage of corn acreage equipment was used on	Labor cost per acre, all land in corn
400 TO 900 ACRES--Con.	<u>Hours</u>	<u>Number</u>	<u>Hours</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>
Bed:						
2-row.....	0.8	1.0	0.8	0.37	3.3	0.01
3-row.....	.5	1.2	.6	.28	43.4	.12
4-row.....	.3	1.0	.3	.14	31.9	.04
Fertilize:						
3-row.....	.3	1.0	.3	.14	8.0	.01
4-row.....	.2	1.3	.3	.14	67.4	.09
Harrow:						
3-row.....	.3	1.0	.3	.18	21.3	.04
4-row.....	.25	1.0	.2	.09	46.7	.04
Plant, 4-row.....	.5	1.0	.5	.23	100.0	.23
Replant, 4-row.....	.5	1.0	.5	.23	8.2	.02
Cultivate, 4-row.....	.3	2.0	.6	.28	91.8	.26
All operations....	---	---	---	----	---	1.44
1,000 ACRES OR MORE						
Cut stalks, 2-row.....	.4	1.0	.4	.18	4.0	.01
Disk:						
2-row.....	.6	1.2	.7	.32	22.5	.07
3-row.....	.45	1.5	.7	.32	31.6	.10
4-row.....	.3	2.0	.6	.28	45.9	.13
Bed:						
3-row.....	.5	1.2	.6	.28	66.0	.18
4-row.....	.3	1.0	.3	.14	6.4	.01
Fertilize:						
3-row.....	.3	1.0	.3	.14	34.4	.05
4-row.....	.2	1.0	.2	.09	65.6	.06
Harrow, 4-row.....	.25	1.0	.2	.09	84.4	.08
Plant:						
2-row.....	.8	1.0	.8	.37	27.5	.10
4-row.....	.5	1.0	.5	.23	72.5	.17
Cultivate:						
2-row.....	.6	1.0	.6	.28	13.8	.04
4-row.....	.3	2.0	.6	.28	72.4	.20
All operations....	---	---	---	---	---	1.20

<sup>1</sup> With wage rate of \$0.46 per hour.

<sup>2</sup> Mules used as sources of power.

<sup>3</sup> Less than one-half cent.

TABLE 28.--Oat production, preharvest machine operations: Labor costs per acre, by size of farm and equipment, Delta area, Mississippi, 1957

Size of farm, operation, and size of equipment	Hours per acre, once over	Times over	Hours per acre, all times over	Labor cost per acre <sup>1</sup>	Percentage of oat acreage equipment was used on	Labor cost per acre, all land in oats
LESS THAN 60 ACRES OF CROPLAND	<u>Hours</u>	<u>Number</u>	<u>Hours</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>
Disk, 2-row.....	0.6	2.1	1.3	0.60	100.0	0.60
Harrow:						
2-row.....	.4	1.3	.5	.23	29.7	.07
4-row.....	.25	1.0	.2	.09	7.2	.01
Drill:						
2-row.....	.6	1.0	.6	.28	50.0	.14
3-row.....	.4	1.0	.4	.18	44.9	.08
4-row.....	.3	1.0	.3	.14	5.1	.01
Cultipack, 2-row.....	.5	1.0	.5	.23	12.3	.03
Fertilize:						
2-row.....	.6	1.0	.6	.28	41.3	.12
4-row.....	.2	1.0	.2	.09	14.5	.01
Poison, 6-row.....	.6	1.0	.6	.28	4.6	.01
All operations.....	---	---	---	---	---	1.08
60 TO 399 ACRES						
Disk:						
2-row.....	.6	2.2	1.3	.60	94.5	.57
3-row.....	.45	2.0	.9	.41	5.5	.02
Harrow:						
2-row.....	.4	1.2	.5	.23	10.2	.02
4-row.....	.25	1.1	.3	.14	78.1	.11
Drill:						
2-row.....	.6	1.0	.6	.28	9.6	.03
3-row.....	.4	1.0	.4	.18	48.4	.09
4-row.....	.3	1.0	.3	.14	42.0	.06
Cultipack, 2-row.....	.5	1.0	.5	.23	1.9	( <sup>2</sup> )
Fertilize:						
2-row.....	.6	1.0	.6	.28	16.1	.05
3-row.....	.3	1.0	.3	.14	12.6	.02
4-row.....	.2	1.0	.2	.09	48.8	.04
All operations.....	---	---	---	---	---	1.01
400 TO 999 ACRES						
Disk:						
2-row.....	.6	2.1	1.3	.60	50.7	.30
3-row.....	.45	2.7	1.2	.55	42.7	.23
4-row.....	.3	1.9	.6	.28	6.6	.02
Harrow:						
2-row.....	.4	1.4	.6	.28	9.4	.03
3-row.....	.3	1.0	.3	.14	12.2	.02
4-row.....	.25	1.0	.2	.09	71.3	.06
Drill:						
2-row.....	.6	1.0	.6	.28	.7	( <sup>2</sup> )
3-row.....	.4	1.0	.4	.18	53.2	.10
4-row.....	.3	1.0	.3	.14	46.1	.06
Cultipack, 3-row.....	.4	1.0	.4	.18	.7	( <sup>2</sup> )
Fertilize:						
3-row.....	.3	1.0	.3	.14	38.9	.05
4-row.....	.2	1.0	.2	.09	11.4	.01
All operations.....	---	---	---	---	---	.88

See footnotes at end of table.

- Continued

TABLE 28.--Oat production, preharvest machine operations: Labor costs per acre, by size of farm and equipment, Delta area, Mississippi, 1957--Continued

Size of farm, operation, and size of equipment	Hours per acre, once over	Times over	Hours per acre, all times over	Labor cost per acre <sup>1</sup>	Percentage of oat acreage equipment was used on	Labor cost per acre, all land in oats
1,000 ACRES OR MORE	<u>Hours</u>	<u>Number</u>	<u>Hours</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>
Disk:						
2-row.....	0.6	1.9	1.1	0.51	69.4	0.35
3-row.....	.45	1.4	.6	.28	30.6	.09
Harrow, 4-row.....	.25	1.1	.2	.09	81.7	.08
Drill:						
3-row.....	.4	1.0	.4	.18	48.9	.09
4-row.....	.3	1.0	.3	.14	51.1	.07
Cultipack, 4-row.....	.25	1.0	.2	.09	41.7	.04
Fertilize:						
3-row.....	.3	1.0	.3	.14	19.6	.03
4-row.....	.2	1.0	.2	.09	80.4	.07
All operations.....	---	---	---	---	---	.82

<sup>1</sup> With wage rate of \$0.46 per hour.

<sup>2</sup> Less than one-half cent.

TABLE 29.--Wheat production, preharvest machine operations: Labor costs per acre, by size of farm and equipment, Delta area, Mississippi, 1957

Size of farm, operation, and size of equipment	Hours per acre, once over	Times over	Hours per acre, all times over	Labor cost per acre <sup>1</sup>	Percentage of wheat acreage equipment was used on	Labor cost per acre, all land in wheat
LESS THAN 60 ACRES OF CROPLAND	<u>Hours</u>	<u>Number</u>	<u>Hours</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>
Disk, 2-row.....	0.6	2.4	1.4	0.64	100.0	0.64
Harrow:						
2-row.....	.4	1.4	.6	.28	25.6	.07
4-row.....	.25	1.0	.2	.09	17.4	.02
Drill, 3-row.....	.4	1.0	.4	.18	100.0	.18
Cultipack, 2-row.....	.5	1.0	.5	.23	8.1	.02
Fertilize:						
2-row.....	.6	1.0	.6	.28	30.2	.08
3-row.....	.3	1.0	.3	.14	4.6	.01
Poison, 4-row.....	.8	1.0	.8	.37	5.8	.02
All operations.....	---	---	---	---	---	1.04
60 TO 399 ACRES						
Disk, 2-row.....	.6	2.5	1.5	.69	100.0	.69
Harrow:						
2-row.....	.4	1.0	.4	.18	12.6	.02
4-row.....	.25	1.1	.3	.14	82.6	.12
Drill:						
2-row.....	.6	1.0	.6	.28	15.6	.04
3-row.....	.4	1.0	.4	.18	55.6	.10
4-row.....	.3	1.0	.3	.14	28.8	.04
Fertilize:						
2-row.....	.6	1.0	.6	.28	6.8	.02
3-row.....	.3	1.0	.3	.14	7.0	.01
4-row.....	.2	1.0	.2	.09	24.6	.02
All operations.....	---	---	---	---	---	1.06
400 TO 999 ACRES						
Disk:						
2-row.....	.6	1.8	1.1	.51	67.0	.34
3-row.....	.45	2.7	1.2	.55	8.9	.05
4-row.....	.3	1.4	.4	.18	24.1	.04
Harrow:						
3-row.....	.3	1.0	.3	.14	6.7	.01
4-row.....	.25	1.0	.2	.09	86.6	.08
Drill:						
2-row.....	.6	1.0	.6	.28	21.1	.06
3-row.....	.4	1.0	.4	.18	28.7	.05
4-row.....	.3	1.0	.3	.14	50.2	.07
Cultipack, 3-row.....	.4	1.0	.4	.18	6.7	.01
Fertilize:						
2-row.....	.6	1.0	.6	.28	6.7	.02
3-row.....	.3	1.0	.3	.14	32.6	.05
4-row.....	.2	1.0	.2	.09	33.4	.03
All operations.....	---	---	---	---	---	.81
1,000 ACRES OR MORE						
Disk:						
2-row.....	.6	1.4	.8	.37	20.6	.08
3-row.....	.45	1.9	.9	.41	37.7	.15
4-row.....	.3	2.7	.8	.37	41.7	.15
Harrow, 4-row.....	.25	1.8	.4	.18	91.5	.16
Drill:						
3-row.....	.4	1.0	.4	.18	46.7	.08
4-row.....	.3	1.0	.3	.14	53.3	.07
Fertilize:						
3-row.....	.3	1.0	.3	.14	20.6	.03
4-row.....	.2	1.0	.2	.09	43.5	.04
Poison, 4-row.....	.8	1.0	.8	.37	31.4	.12
All operations.....	---	---	---	---	---	.88

<sup>1</sup> With wage rate of \$0.46 per hour.